August 29, 1942

Railway Age

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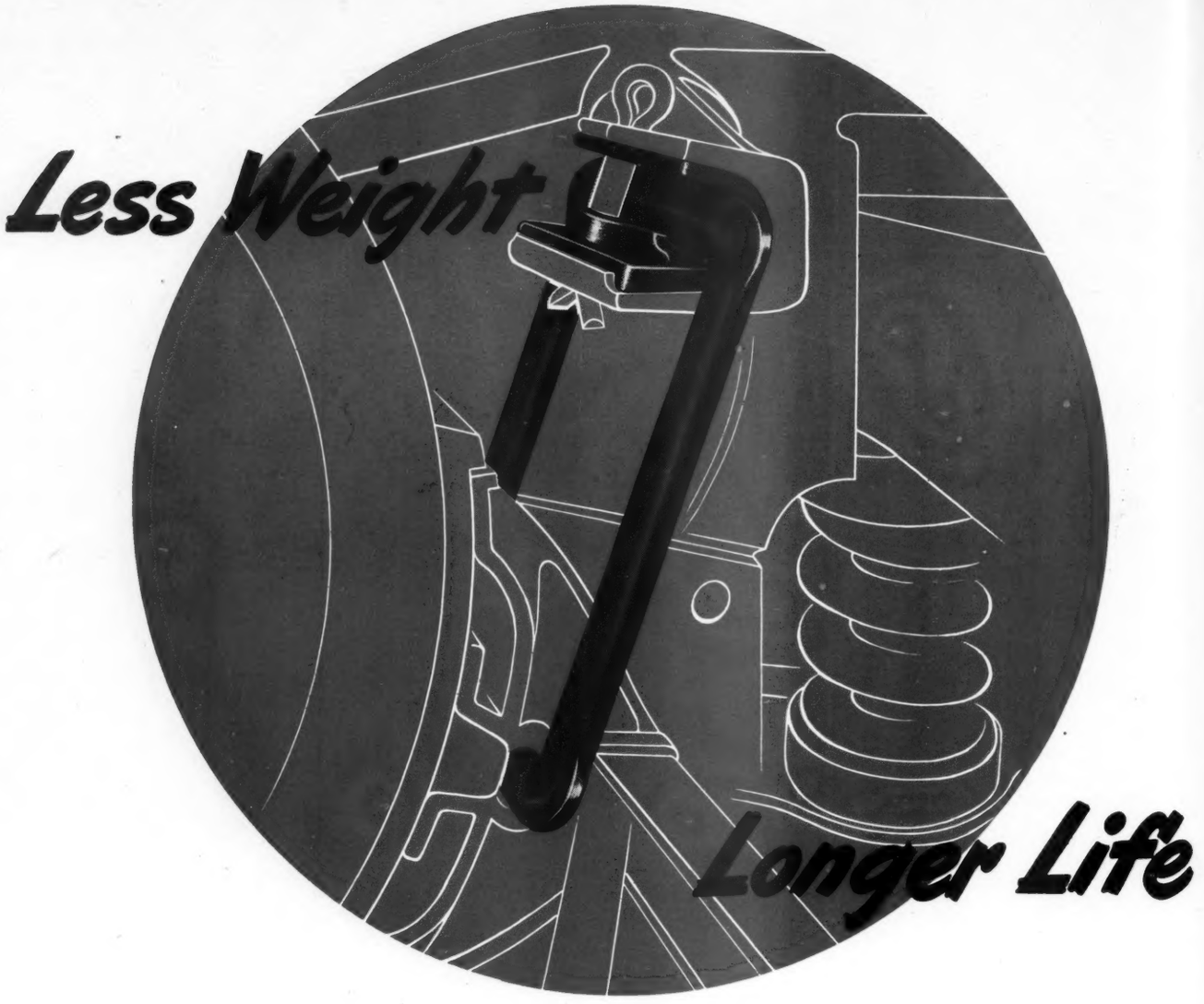

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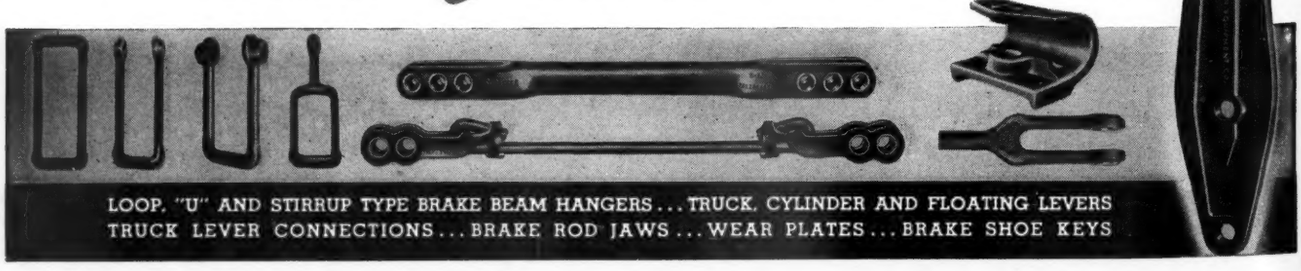

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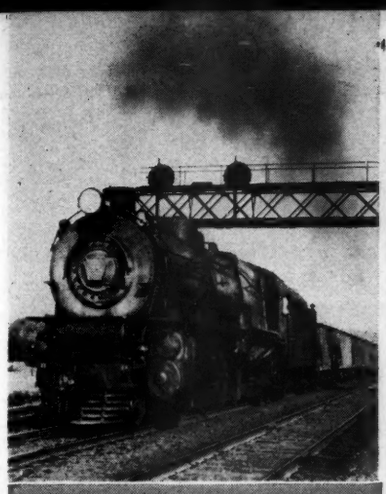

Railway Age

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In This Issue

Page

Welding Assists in the Building of C. & O. Locomotives ***333***

A discussion of the materials and fabrication methods chosen to avoid the use of critical materials in building the eight 4-6-4 type passenger locomotives recently delivered to this road by the Baldwin Locomotive Works.

Systematic Freight Car Numbering? ***337***

R. L. Sproul, Superintendent Car Service of the Southern, in this article proposes a simple plan which would disclose the car type and dimensions of freight cars, thus expediting distribution and recording.

Pere Marquette Has Rehabilitated Its Canadian Division ***340***

Part I of an article describing the important improvements made on this road's 127-mile single track Canadian Division, resulting in longer trains and greater economy.

EDITORIALS

"If Winter Comes" 329
Mechanical Committees Expedite Car Movement 330
Equipment Depreciation 330
Use of Signal Materials 331
Work Equipment 331
Where Product Increases Far More Rapidly Than Plant 332

GENERAL ARTICLES

Welding Assists in the Building of C. & O. Locomotives 333
Systematic Freight Car Numbering?, by R. L. Sproul 337
Pere Marquette Has Rehabilitated Its Canadian Division, Part I 340
Traffic Trends Get Close Study on the New Haven, Part II 344

RAILROADS-IN-WAR NEWS **348**

GENERAL NEWS **351**

OPERATING REVENUES AND EXPENSES **357**

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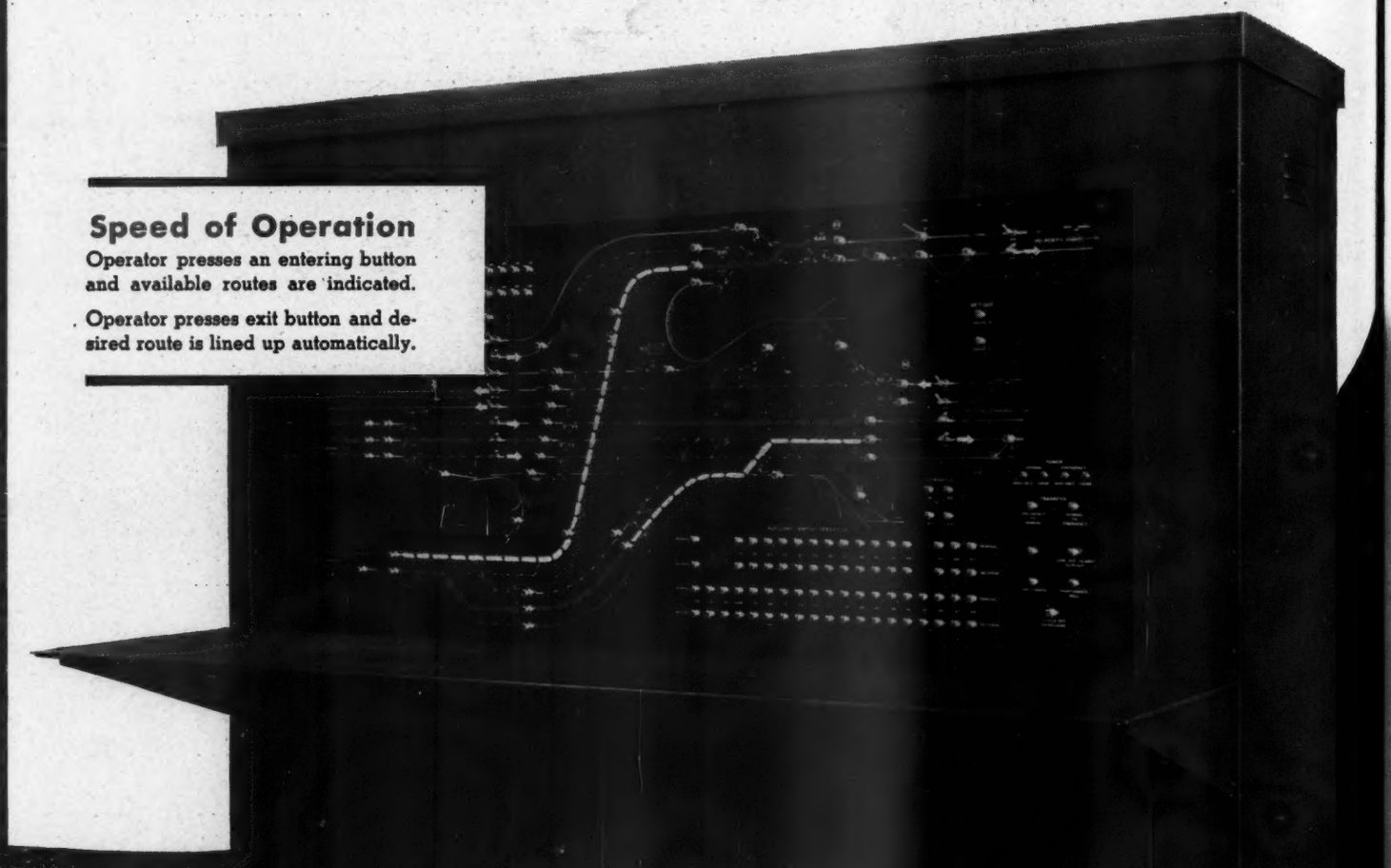

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RAILWAY AGE

"If Winter Comes"

There is an important influence on transportation that has not been emphasized enough in discussions of the probable ability of the railways to meet future demands. The weather is capable of becoming a most important influence under present abnormal conditions.

Only railroad men realize the increase in the difficulties of operation caused in Canada and most of the United States by the arrival of winter. This is especially true when, under war conditions, traffic does not decline normally in the winter months. Combine (1) a traffic that does not decline normally in the winter months, which we now have, with (2) abnormally small surpluses of locomotives and cars, which we also have, and (3) a severe winter, and you have a perfect combination for creating a transportation shortage.

The normal average seasonal decline of 20 per cent in the demand for railway freight service between October and the December, January and February following usually more than offsets the increased difficulties of winter operation. But those who remember the war-time winter of 1917-1918 recall only too vividly that this did not occur then. As now, the railways were confronted with a war traffic not subject to the usual seasonal decline, and complicated and demoralized —as present traffic is not—by government priority orders. They found themselves also confronted with one of the worst winters in history, abnormally low temperatures and ice and heavy snow extending much farther south than usual and almost clear across the country. Consequently, instead of the traffic handled declining much *less* than seasonally, as under the pressure of war demands it should have, it declined an average of 24 per cent in December, January and February, 1917-1918, as compared with October, 1917. Increased "car shortages," heatless days by government edict, widespread inconvenience and suffering, and interference with every part of the nation's war effort resulted.

Efficiency FOR VICTORY

In striking contrast was the outcome of operation in the war-time winter of 1941-1942. Because of the nation's war effort there was, as in the winter of 1917-1918, no normal seasonal decline in the *demand* for railway service; but there was not, as in the winter of 1917-1918, a more than normal seasonal decline in the traffic *handled*. On the contrary, in last December, January and February the average monthly volume of freight traffic handled was only 12½ per cent less than at the peak in October, 1941; and surpluses of both locomotives and freight cars increased. But the important fact should not be disregarded that the winter of 1941-1942 was mild—mild, indeed, compared with that of 1917-1918.

The railways are now approaching the winter of 1942-1943. Their equipment, tracks and other facilities have been subjected to the hardest use in all history. For months materials have been denied them not only for providing new equipment and facilities, but even for adequately maintaining those already available. Consequently, surpluses of both locomotives and open-top freight cars have been smaller during the summer months of 1942 than at the peak of traffic last fall. And there is not the remotest prospect of a normal seasonal decline of traffic next winter.

As—with two-thirds of 1942 gone—the War Production Board makes no definite move toward increasing materials for railway purposes, the railways should hasten all they can their preparations for next winter, while all of us should pray that it will be as unlike the winter of 1917-1918 as possible.

Mechanical Committees Expedite Car Movement

For almost a year the Mechanical Division, A. A. R., has been placing special emphasis on four factors that have an important bearing on the efficient utilization of freight cars. These are the selection of the proper types of cars in suitable mechanical condition for loading; repair of bad order or unfit cars so that, when loaded, they may reasonably be expected to transport lading to destination without delay; use of adequate loading methods to prevent damage to lading or need of adjustment en route; and avoidance of delay to any loaded cars that are in condition to proceed safely to destination. The notable success of the educational program is shown by the fact that 36 per cent more freight traffic has been handled this year than last year, and new high records established in average miles per car, tons per car and ton-miles per train-hour during this period.

One of the most potent forces is the work of mechanical committees, appointed last December, at 51 important shipping centers throughout the country and assigned the specific duty of helping individual railroads and private car owners reduce car delays, and to develop and disseminate information regarding the best means of increasing freight car availability and service performance. In some districts, such as the Chicago and St. Louis gateways, as many as 20 to 23 railroads are represented on these committees, and in others only three or four roads. Private car companies are represented at the periodic meetings which are held with a view to setting up uniform good practice and calling attention to conditions requiring correction.

The general procedure has been for each committee to appoint a small sub-committee of thoroughly experienced and practical car department supervisors, who personally inspect and check conditions at individual shops and repair points in the district; they submit reports and, in effect, serve as the eyes and ears of the major mechanical committees. The most effective sub-committees are those which have shown no favoritism and pulled no punches in making their reports, even though the facts presented might in some instances seem to reflect on practices on their own roads.

What are some of the conditions discovered? Delayed spotting of bad-order cars; cars bad-ordered for old air brake or journal packing dates; poor workmanship and lack of thoroughness, such as returning cars to service with four new floor boards when eight new boards are needed; lack of compressed air at outlying points where brakes need to be cleaned and air tools used for efficient work; cars leaving general repair shops with defective wheels; dust guards not renewed, or journal box packing and oil not up to A. A. R. standards; and cars not safely loaded. These conditions are called to the attention of individual railroads, private car companies, or shippers responsible, and necessary corrective measures taken.

Concentrating attention on details and practices which need correction has had the effect of raising the general standards of car maintenance and use, and deserves the hearty support of every one interested in promoting these two objectives.

Equipment Depreciation

It is not yet known, of course, what if any relief may be accorded to the railroads in the pending tax bill, to enable them to deduct charges for under-maintenance of their properties in the present period of intensive use and shortage of materials. Whatever such deductions are permitted, it is scarcely likely that they can fully reflect the rate at which present railroad facilities are being "used up."

As is generally known, depreciation on railway equipment is computed on the "straight line" method—a fixed annual percentage of the original cost. In the years 1934 to 1941, inclusive, the average daily mileage per freight car fluctuated as follows: 24.2, 25.8, 30.7, 32.9, 28.1, 31.7, 40.6. In May of the present year average daily freight car mileage was 47.7—or 97 per cent greater than in the year 1934. Even if cars are fully maintained, it seems obvious that the useful life of the car as a whole is now being consumed at double the rate of eight years ago.

But these cars are not only making double the daily mileage of 1934—they are also hauling, on the average, a 25 per cent heavier load. The combined mileage-plus-tonnage performance per car (daily net ton-miles) averaged 935 in May, this year, as compared to 378 in the year 1934—*an increase of 147 per cent.* It may well be doubted, when the existing annual depreciation rates for equipment were adopted, that any such intensive use as is now occurring was envisioned.

Use of locomotives is following a similar pattern. Miles per freight locomotive per day have varied as follows in the years 1934-41 inclusive: 49.2, 52.3, 60.5, 69.9, 58.8, 65.4, 72.4, 87.9. In May, this year, freight locomotives averaged 103 miles daily—an increase of 109 per cent over the year 1934. Daily mileage per passenger locomotive fluctuated, 1934-41, as follows: 100, 108, 121.4, 130.2, 122.7, 128.1, 134.8, 147. In May, 1942, it averaged 162—or 62 per cent higher than in 1934. Locomotives, of course, are not only operating far more miles per day than they ever did before, but they are also pulling heavier loads. The average passenger train in May this year had 18 per cent more cars than in the year 1934, and the average freight train averaged 48 per cent more gross tons.

The government has been fair in its allowance of depreciation charges on plant installed especially for war purposes (permitting capital cost to be amortized in five years). It has not always been so generous in the charges which it will permit (for tax purposes) on plant already existing. There is no reasonable basis

for a distinction. If plant is subject to unusual wear in the war effort, such use should be charged to expenses in the war years—and not be held over as a burden to be written off against peace-time operations.

It is not here suggested that temporarily higher depreciation rates is the best method to secure proper charges to operating expenses to compensate for present intensive use of railroad plant. Indeed, for technical accounting reasons, it is likely that adequate allowance for deferred maintenance is a more desirable means to the same end. Be that as it may, conditions after the war are too uncertain for the railroads at that time to have to face the further necessity of compensating themselves for plant used up in the war effort. Such "depletion" is a proper charge against current earnings.

Use of Signal Materials

It is the present policy of the War Production Board to supply the railroads with the materials necessary to maintain and operate their signal and interlocking facilities; but for major changes or new installations the policy is to determine whether the equipment is necessary by the extent to which the project will expedite war transportation.

In numerous instances interlockings and automatic block signaling have not been changed to conform with the requirements of the Interstate Commerce Commission, the final effective date for which was fixed as September 1, 1941, for certain items. For example, one railroad still has in service two old mechanical interlockings including wire-connected signals and detector bars, both of which items are prohibited by the I. C. C. rules. Plans have been made for replacing these plants with one new all-relay power interlocking to consolidate the two layouts. Interlocking consolidations of this character are desirable, but the local conditions are such that this project would not expedite train movements, and safety would be increased to only a slight extent.

In contrast, if the corresponding quantities of such strategic materials as copper and insulation were applied in a centralized traffic control project on a busy line, freight trains would save approximately an hour for each 60 miles of single track so equipped, and safety would also be increased. A logical action, therefore, would be to ask the Interstate Commerce Commission for permission to defer the interlocking changes, and in several instances such permission has already been granted.

Another consideration is that the I. C. C. rules require that signals of the three-aspect type be spaced at least train-stopping distance. In this requirement no allowance is made for the distance which an engineman can see a signal when approaching, and no distinction is made between the use of the service and the emergency application of the brakes. In general, however, the railroads have been active in respacing their signals to lengthen the blocks, although marginal installations still exist on numerous roads, and a question arises whether this work should be pushed to completion under war conditions.

The decision whether an automatic block is of train-stopping distance length is left for each railroad to determine on the basis of the speeds and weights of its trains, as well as the local grade conditions and the character of brake application used. Recognizing the fact that materials are not available to respace the signals, one road has installed speed restriction signs in approach to signals governing blocks which might be less than train stopping distance. These signs are of a distinctive shape so that an engineman will know that they do not apply to curves, bridges or other local conditions. A rule is in effect that if the engineman can see that the signal ahead is displaying a clear aspect, conformance with the speed restriction is not required. This practice insures safety and at the same time prevents unnecessary restrictions of speed so that the respacing of the signals can be deferred, perhaps for the duration of the war. In the meantime, the materials which otherwise would be required for the signaling changes can be applied on centralized traffic control or other signaling projects which will accomplish most in expediting war traffic.

Work Equipment

One of the striking features of the use of work equipment for maintenance of way operations was the continual expansion in its use throughout the depression. This was evidenced both in the number of units employed and in the variety of operations in which it was utilized. Such a trend demonstrates the fundamentally sound reasons for its use. However, compelling and important as these reasons have been, a condition is now developing that is becoming even more impressive to supervisory maintenance officers and bids fair to become the major consideration in the immediate future.

This new condition arises from the fact that we are now engaged in a war that is making extremely heavy inroads on manpower. Although we are scarcely beyond the initial stages of our war effort, four million men already have been drawn into military service, and war-time industries have called as many more from other avocations. Yet we are told that what has occurred so far is only a token of what is to come. A shortage of labor for maintenance of way is already developing, and it bids fair to become highly acute in the near future. To meet this situation, individual railways are resorting to various expedients, including the return to service of pensioned employees and the relaxation of age limitations and physical requirements for men entering the service.

Work equipment offers an even more constructive

solution of the problem, for its utilization makes unnecessary the use of men who are needed elsewhere. In the main, additional units of work equipment are still to be had, for the builders have been very alert in revising their designs to avoid, so far as possible, the use of scarce or "critical" materials. As a result, the purchases of work equipment, which reached the all-time high figure of more than 8000 units, costing over $10,500,000 last year, are soaring to still higher levels this year. This is a highly constructive contribution to the railways' war efforts, and should be encouraged.

But the railways can also add greatly to their utilization of work equipment by increasing the service of what they already have by the adoption of longer working days, even though this may involve overtime payments, or through double shifting. In both of these directions contractors have pointed the way, although numerous railways have recognized the value of these measures in recent months. As a result, such units as ballast-cleaning equipment, moving machines, tie-tamping outfits, grading units and tie saws are being worked from daylight to dusk. Such expedients may, and often do, require modification of established working procedure. This, however, is necessary in the days through which we are passing; and it is probable that helpful practices will be developed which will survive the present emergency.

Where Product Increases Far More Rapidly Than Plant

There is an outstanding and little-appreciated difference between the supply of railroad transportation for the nation's war work and the supply of most other factors entering therein. This difference lies in the fact that facilities already exist for three-fourths of the maximum transportation output which can possibly be asked from the railroads. To add 50 per cent to the capacity of present railroad plant, it is not necessary to increase railroad facilities by 50 per cent—because *most* railroad facilities could accommodate a 50 per cent increase in use without themselves being expanded. Most railroad facilities are not yet used to anywhere near capacity. It is only the "tight spots" (notably, now, locomotives and some classes of freight cars; with, here and there, a yard or a signal installation) which need new plant. Additions to facilities at such strategic points (combined, of course, with adequate materials to keep existing plant in repair) will provide for an expansion in railroad capacity out of all proportion to the physical or monetary outlay.

This characteristic of railroad transportation—and the means of increasing it—contrasts markedly with the problem faced in the supply of war materials. That is to say, to increase the output of ships or planes or tanks and most other war materials, the facilities needed to produce them have to be built from the ground up.

The railways in June of this year produced 30 per cent more ton-miles of freight service than in June, 1941. There are no figures yet available on the increase in their total plant in that twelve months, but it is safe to say that, in percentage ratio to total railway facilities, it was negligible.

A further increase of 30 per cent in railroad transportation output would call for larger increases in plant than this particular 30 per cent increase did—but, even now, the ratio of new facilities required is negligible in comparison to the resultant increase in output.

There is probably no other industry so closely related to successful waging of the war in which so little additional facilities, in physical quantity as well as cost, would so greatly enlarge both the nation's actual *transportation* capacity and its *potential productive* capacity—and yet the railways are being denied the relatively very small amounts of materials needed to make possible these increases in both the *actual* and *potential* capacity of the nation.

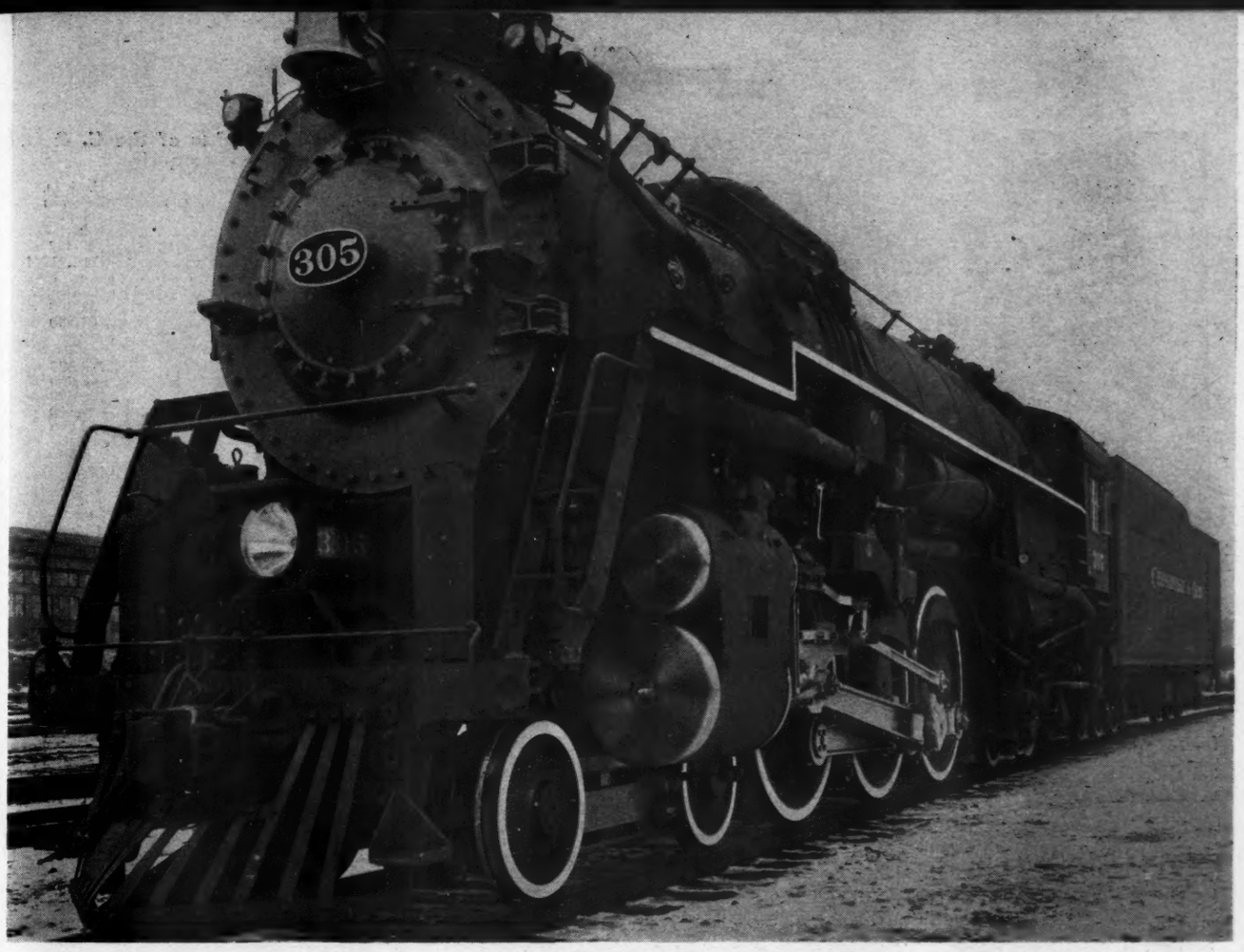
What Kansas' Leading Citizen Thinks About the Railroads

"You ask me whether I think the American railroads are doing their jobs in this grave crisis. Well, I would say, you're right tootin' they are, and tootin' is the word! I live six city blocks north of the Santa Fe main lines. All trains between Chicago and Galveston, between Chicago and Los Angeles and San Diego east or west, go right by my door and you should hear them toot. Try to sleep with your south windows open on a summer night and you will certainly hear them toot. It's a continuous procession of swift passenger trains laden with soldiers and long grumbling, rumbling freight trains often with two engines and all night they sound like some cosmic rooster crowing to spell the dawn of the day of doom for America's enemies.

"No other service in the United States is doing such a swell job as the American railroads. They were ready for it. When the warning came in '39 after we repealed the embargo clause of the Neutrality Law, the railroads knew what was coming. They are now equipped with cars and with rails. Their roundhouses are full but not clogged. They keep the wheels moving. The American capacity for organization under crisis never was exemplified so splendidly as the American railroads have proved their worth and excellence. It is a great job well done. It is the sort of thing that Americans do better than anything else. Our hard common sense, our indomitable purpose to achieve, all these are back of our effort. The railroads have done their work without friction with either labor or capital. They have responded to a great emergency with splendid intelligence.

"And are they doing their job? You're just right tootin' they are!"

William Allen White in "Proof"—Publication of the Railway Magazine Editors' Assn.



Welding Assists in the Building of C. & O. Locomotives

Materials and fabrication methods chosen to avoid use of critical materials in building 4-6-4 type

THE Chesapeake & Ohio received eight 4-6-4 passenger type locomotives from the Baldwin Locomotive Works during December, 1941, and January, 1942, the construction of which was influenced by the desirability of avoiding certain critical materials, the selection of which would have delayed the completion of the order. In particular, flame cutting and welding were resorted to in fabricating numerous details which ordinarily would have been cast or forged.

Cast-Steel Cylinders are Bolted and Welded

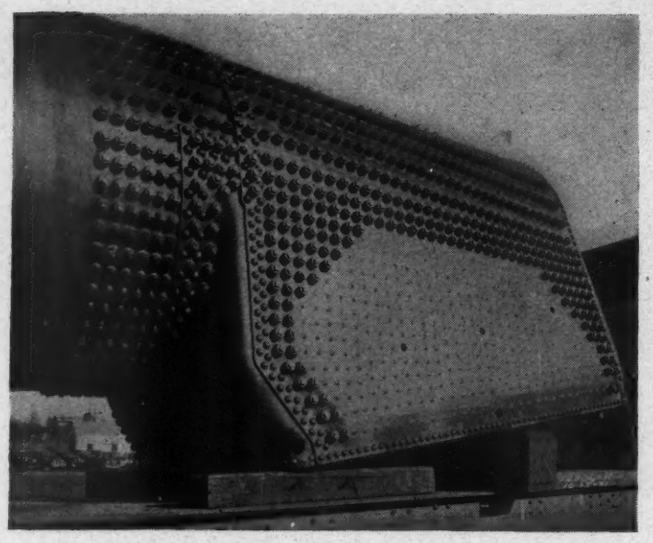
The foundation for the locomotive is a set of cast-steel bar frames, with separate cradle, furnished by the General Steel Castings Corporation. All frame braces are welded to the frames. The driving-box pedestal toes are unusually large longitudinally. The pedestal caps are held by two studs set in each toe and by a lock bolt at each end which passes down through the lower frame bar.

There are two cylinder and half-saddle steel castings. These are bolted together, scarfed out, and then welded. The cylinder and frame joints and the saddle joint are also bolted and welded.

The back cylinder heads are separate castings, but are welded in place. The front valve-chamber heads are cast iron. Hunt-Spiller gun-iron bushings are applied in the cylinders and valve chambers.

These locomotives have spoke driving wheels with shallow reinforcing flanges on the spokes at the inside with large radius fillets at the rim and hub. The wheels are mounted on axles with relief grooves at the inside edge of the wheel fit. The journals are fitted with Timken double-roller type bearings in two-piece housings. Provision is made for a lateral of $\frac{3}{16}$ in. on each side of the engine.

Both the engine and trailer trucks are Commonwealth types with Timken double-roller type bearings. Those on the engine truck are inboard and those on the trailer truck, outboard. The engine truck has 36-in. wheels. Its initial and constant lateral resistance is 30 per cent and the journal-box lateral is $\frac{3}{16}$ in. A further instance of fabrication by welding is afforded by the engine-truck



The Roof and Side Wrapper Sheets Are Joined by Butt Welds—The Throat-Sheet and Side-Sheet Seams Are Seal Welded

pedestal binders. These are fabricated by bending a flat steel bar to contour and welding on the pedestal lugs.

The trailer truck has 36-in. front wheels and 45-in. rear wheels. The front axle has a lateral movement of 1 in. and is fitted with the Timken three-roller lateral-motion device which provides a 15 per cent initial and constant resistance.

The rear trailer axle has a lateral movement of 3/16 in.; on it drives a Franklin Type E short cut-off booster with slip control.

The counterbalancing is based on static balancing in all driving wheels. In calculating the weights of the reciprocating parts the scale weight of the front end of the main rod is included. Reciprocating weights are 2,207 lb. on each side, and a total of 820 lb. of overbalance is distributed, 250 lb. in each front and back wheel, and 320 lb. in each main wheel.

The Driving Gear

The pistons are cast steel, with Hunt-Spiller gun-iron bull rings riveted on. The cylinder packing is the Hunt-Spiller duplex type with combination gun-iron and bronze rings. The crosshead is of the multi-bearing type.

The crank pins are of open-hearth steel. All contain grease cavities fed through fittings on the outside ends of the pins. The side rods have pressed-in bronze bushings. The back end of the main rod has a bronze floating bushing working inside a pressed-in gun-iron bushing. Both the back end of the main rod and the side-rod middle connection have hard-grease fittings.

The piston valves are 14 in. in diameter and they have Hunt-Spiller gun-iron bull rings with duplex combination packing. The valve-rod crosshead was formed by flame cutting. Special attention was given to providing large steam passages. The dry pipe is 9½ in. and the steam pipes 8½ in. inside diameter.

The locomotive is equipped with the Baker valve gear with needle bearings on all pin connections and vulcanized red fibre liners for lateral wear. The reverse gear is the Franklin Precision Type F2 with 10-in. cylinders.

Spring Hangers Are Forgings

The double driving-spring hangers are symmetrical in form and are forged by drawing down the body from solid stock. No upsetting was permitted. The spring lugs are mostly made by welding a piece of bar stock of suitable diameter to the base of a piece of boiler-brace tee-iron. The stems of the tees were machined to fit the spring slots and the bar stock drilled to the size required to take the bushing. Pins and bushings are casehardened and have Alemite fittings.

The spring saddles are fabricated from 1¼-in. boiler

Principal Dimensions and Weights of the C. & O. 4-6-4 Type Passenger Locomotive

Railroad	C. & O.
Builder	Baldwin
Type of locomotive	4-6-4
Road class	L-2
Road numbers	300-307
Date built	Dec., 1941 / Jan., 1942
Service	Passenger
Rated tractive force, engine, lb.	52,000
Rated tractive force with booster, lb.	64,600
Weights in working order, lb.:	
On drivers	217,500
On front truck	93,500
On trailing truck	128,500
Total engine	439,500
Tender (fully loaded)	393,000
Wheel bases, ft.-in.:	
Driving	14-0
Engine, total	41-5½
Engine and tender, total	91-8¼
Driving wheels, diameter outside tires, in.	78
Cylinders, number, diameter and stroke, in.	2-25 x 30
Valve gear, type	Baker
Valves, piston type, size, in.	14
Maximum travel, in.	8
Boiler:	
Steam pressure, lb.	255
Diameter, first ring, inside, in.	84
Firebox length, in.	135 1/16
Firebox width, in.	96⅛
Combustion chamber length, in.	42
Arch tubes, number and diameter, in.	2-3½
Thermic syphons, number	2
Tubes, number and diameter, in.	50-2¼
Flues, number and diameter, in.	198-3½
Length over tube sheets, ft.-in.	18-0
Fuel	Bit. coal
Grate area, sq. ft.	90
Heating surfaces, sq. ft.:	
Firebox and comb. chamber	345
Arch tubes	19
Syphons	96
Firebox, total	460
Tubes and flues	3,773
Evaporative, total	4,233
Superheater	1,810
Comb. evaporative and superheater	6,043
Tender:	
Type	Water bottom
Water capacity, gal.	21,000
Fuel capacity, tons	30
Trucks	6-wheel

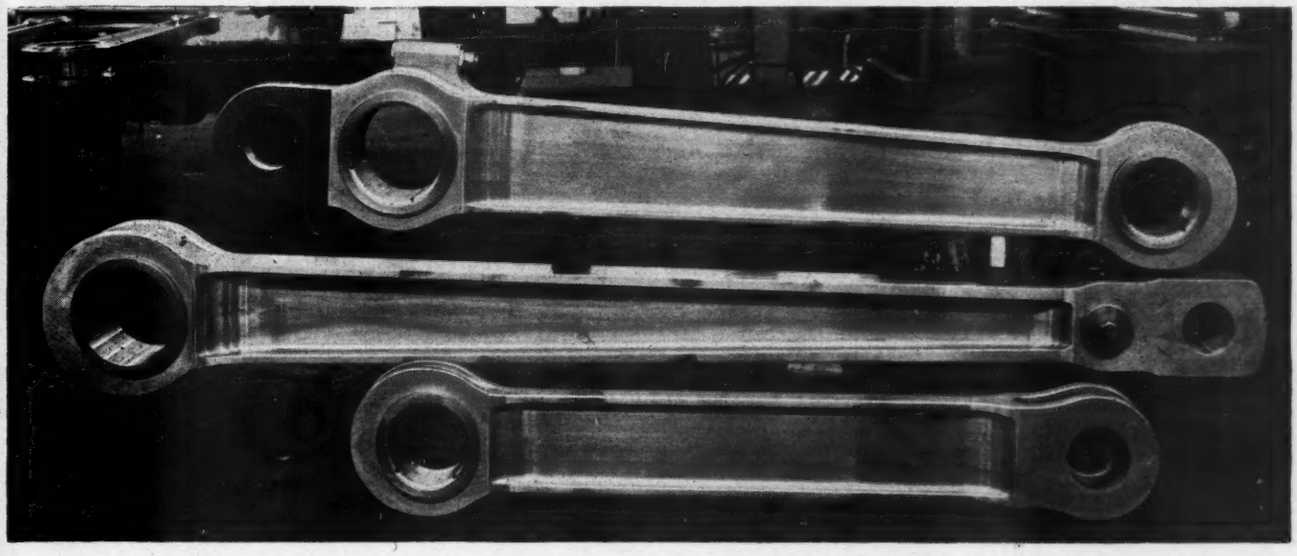
The Cab Interior

plate, with spring-stop lugs welded on the top. These saddles have exceptionally long bearings on the top of the driving boxes.

Lubrication

Each locomotive has two Nathan DV-7 36-pint mechanical lubricators. The one on the right side supplies valve oil and that on the left, engine oil. The valve-oil lubricator has 13 single-pump feeds and, in addition to valve chambers and cylinders, furnishes lubrication to the guides and the hot-water pump. The engine-oil lubricator has eight single and four double pumps, feeding to the valve-rod crossheads, engine-truck center plate, trailer radius-bar seat, furnace-bearer shoes and radial buffer face, in addition to engine-truck, trailer-truck and driving-box pedestal faces.

Grease lubrication through Alemite grease fittings is provided for the power reverse gear and reverse-shaft bearings, valve-motion bearings, spring-rigging and brake-hanger pins, throttle-rigging bearings, ash-pan dump-shaft bearings, the stoker gear case, engine- and trailer-truck lateral-motion devices, and the side-rod knuckle pins. Hard grease is used on the crank pins, crosshead wrist pins, and the back ends of the eccentric rods. The booster and air compressor steam lines are fed from Edna automatic lubricators.



The Main and Side Rods

The Boilers

The boilers are built of basic open-hearth steel for a pressure of 260 lb. per sq. in. Working pressure is 255 lb. per sq. in. Firebox quality was used for all inside firebox sheets, including the two Thermic syphons and the back tube sheet, and for the outside throat sheet, the dome and dome cap. The greatest plate thickness in the shell is 1 $^{3}/_{32}$ in.

The circumferential joint between the third shell course and the front wrapper sheet and between the shell course and the throat sheet is seal welded inside and outside. The outside butt strap on the third course is also seal welded in the stayed area over the combustion chamber. The joints between the roof and side wrapper sheets are located on the flat surface well below the level of the crown sheet and are butt welded in a single 60-deg. vee on the outside and back welded on the water side. These sheets are also seal welded on the outside at the throat-sheet seam and from the bottom up to the roof and side-sheet weld on the back-head seam.

There is a complete installation of Flannery flexible stays around the combustion chamber and on the throat sheet. They are applied at the breaking zones of the sides and in the two outside rows around the top and sides of the back head.

The mud ring is flame cut in four pieces from a 3½-in. plate. The pieces are then joined by double-U butt welds. Furnace-bearer lugs are welded onto the bottom of the front and back pieces. One of the drawings shows how the patterns are laid out on the plate to reduce the waste to a minimum. After fabrication, these mud rings are finished all around both inside and outside and are secured in the firebox by a single row of rivets. The bottom edges of both inside and outside firebox sheets are flame cut to size and welded to the mud ring all around. Another part, which is flame cut, from plate, is the steam-pipe ring on the front tube sheet.

The ash pan is welded, except where parting is required for its removal. Ribs are welded on the outside to prevent warping. Both the ash-pan attachments to the mud ring and the Firebar grate side-frame supports are welded to the mud ring.

The boiler is laid out for a 52-unit Type E superheater with American throttle in the header. Boiler-feed equipment includes the Worthington type 5s feedwater heater and a Nathan horizontal high-pressure non-lifting injector rated at 9,000 gal. per hour. There is a Nathan low-water alarm with automatic cut-out valve. The coal is fired by a Standard modified MB stoker with the engine on the tender. The fire door is the Franklin butterfly type. The locomotives have steel cabs fabricated by welding and are fitted with Edwards brass sash. Running boards are steel with diamond pattern treads. Superheated steam is supplied to the blower and whistle. All other auxiliaries receive saturated steam. The blower valve, the stoker-engine throttle, and the feedwater-pump throttle are Lunkenheimer valves with stainless-steel stems and nickel-alloy seats and discs.

The tender tanks are built on a General Steel Castings

water-bottom underframe and are of riveted construction throughout.

The coal-space sheets and the tank top are of copper-bearing steel. The remainder of the tank plates are of carbon steel. The water filling hole is placed longitudinally instead of transversely in the roof of the tank. It is 192 in. long by 18 in. wide.

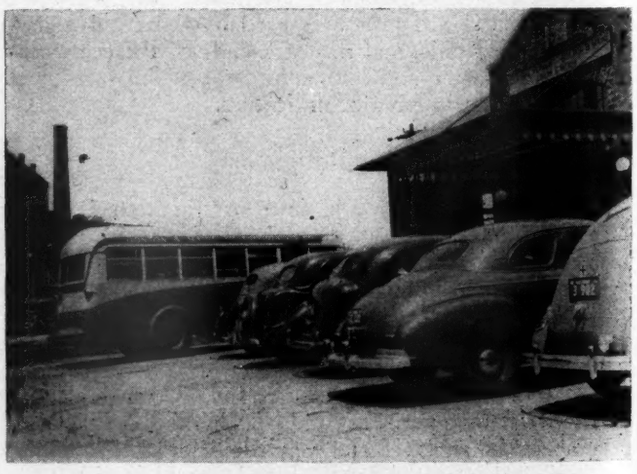
The tender trucks are the Buckeye six-wheel type with multi-wear rolled-steel wheels 36 in. in diameter. The wheel base is 10 ft. The axles have 7-in. journals fitted with Timken double-roller type outboard-bearing boxes. Each bolster-spring set includes a Cardwell-Westinghouse snubber. Truck brakes are the Simplex clasp type.

McLaughlin flexible connections are installed between the engine and tender for air and steam. Barco flexible connections are also inserted in air lines at the air compressors, main-reservoir connections, in the line between the distributing valve and main reservoir, and at the reverse-gear cylinder. They are inserted in steam lines to the air compressors and headlight generator. The engine and tender connections include Ewald-iron drawbar, safety bar and drawbar pins, with Franklin E2 type buffers.

Partial List of Materials and Equipment on the Chesapeake & Ohio 4-6-4 Type Passenger Locomotives

Frames and cradles; engine and trailer trucks	General Steel Castings Corp., Eddystone, Pa.
Wheels and axles	Standard Steel Works Division of the Baldwin Locomotive Works, Philadelphia, Pa.
Tires	American Locomotive Co., Railway Steel Spring Div., New York.
Crank pins	Camden Forge Co., Camden, N. J.
Roller bearings; lateral motion device	The Timken Roller Bearing Co., Canton, O.
Semi-elliptic and coil springs	Pittsburgh Spring & Steel Co., Pittsburgh, Pa.
Bumper	Ohio Steel Foundry Co., Lima, Ohio.
Coupler pilot	National Malleable and Steel Castings Co., Cleveland, Ohio.
Uncoupling rigging	Standard Railway Equipment Company, Chicago.
Pilot coupler pocket	Symington Gould Corp., Rochester, N. Y.
Drawbar; safety bar; pins	Ewald Iron Co., Louisville, Ky.
Radial buffer, booster	Franklin Railway Supply Co., Inc., New York
Rerailer	American Chain & Cable Company, Inc., New York.
Air brakes	New York Air Brake Co., Watertown, N. Y.
Flexible connections to air reservoirs, steam supply to air pump, in air line between distributing valve and reservoir, air line to reverse cylinder	Barco Manufacturing Co., Chicago.
Air gage	Ashton Valve Co., Boston, Mass.
Cylinders	General Steel Castings Corp., Eddystone, Pa.
Reverse gear	Franklin Railway Supply Co., Inc., New York.
Crossheads	Ohio Steel Foundry Co., Lima, Ohio.
Rod bushings	Magnus Metal Div., National Lead Co., New York.
Valve gear	Pilliod Co., New York.
Valve extension handle universal joints	Manning, Maxwell & Moore, Inc., Locomotive Equipment Division, Bridgeport, Conn.
Piston-rod and valve-stem packing	T-Z Railway Equipment Co., Chicago.
Drain cocks	Barco Manufacturing Co., Chicago.
Front-end gasketing	The Garlock Packing Company, Palmyra, N. Y.
Piston bull rings; cylinder and steam-chest bushings; back-end main-rod bushings; piston and piston-valve packing	Hunt-Spiller Manufacturing Corporation, Boston, Mass.
Mechanical lubricators	Nathan Manufacturing Co., New York.
Automatic lubricators, booster and air pump	Edna Brass Mfg. Co., Cincinnati, Ohio.
Alemite fittings	The Prime Manufacturing Co., Milwaukee, Wis.
Boiler and firebox steel	Lukens Steel Co., Coatesville, Pa.
Smokebox front hinges	The Okadee Company, Chicago.
Smokebox netting	The W. S. Tyler Co., Cleveland, Ohio.
Arch brick	American Arch Co., Inc., New York.
Syphons	Locomotive Firebox Co., Chicago.
Arch tubes; boiler tubes; flues	(2) The Babcock & Wilcox Tube Co., Beaver Falls, Pa. (6) National Tube Co., Pittsburgh, Pa.
Staybolt iron:	
Rigid	Ewald Iron Co., Louisville, Ky.
Flexible	Old Dominion Iron & Steel Works, Inc., Richmond, Va.
Staybolts-Flexible, flexible expansion and hollow rigid	Flannery Bolt Co., Bridgeville, Pa.
Boiler and firebox rivets	The Champion Rivet Co., Cleveland, Ohio.
Boiler braces; pins	Ewald Iron Co., Louisville, Ky.
Superheater; superheater header throttle	The Superheater Company, New York.
Superheated-steam-line shut-off valve	Crane Co., Chicago.
Throttle	American Throttle Co., New York.
Lagging	Johns-Manville Sales Corp., New York.
Pipe covering	Union Asbestos & Rubber Co., Chicago.
Pipe, iron	A. M. Byers Co., Pittsburgh, Pa.
Feedwater heater	Worthington Pump and Machinery Corp., Harrison, N. J.
Injectors; boiler checks; low water alarm	Nathan Manufacturing Co., New York.
Washout plugs	Huron Mfg. Co., Detroit, Mich.
	American Locomotive Co., New York.
Blower valves; stoker engine throttle; feed pump throttle	The Lunkenheimer Company, Cincinnati, O.
Blow-off cocks; muffler; cylinder cocks	The Okadee Company, Chicago, Ill.
Smokebox blower fittings	Barco Manufacturing Co., Chicago.
Stoker	Standard Stoker Co., Inc., New York.
Fire doors	Franklin Railway Supply Co., Inc., New York.
Grates	Waugh Equipment Co., New York.
Hose strainer	T-Z Railway Equipment Co., Chicago.
Cab curtains	The Lehon Co., Chicago.
Cab sash	The O. M. Edwards Co., Inc., Syracuse, N. Y.
Windshields; clear-vision windows	The Prime Manufacturing Co., Milwaukee, Wis.
Running boards	Alan Wood Steel Co., Conshohocken, Pa.
Safety valves; steam and back-pressure gages	Manning, Maxwell & Moore, Inc., Locomotive Equipment Division, Bridgeport, Conn.
Globe and angle valves	American Radiator Co., New York.
Turret valves; water-column gages; gage cocks; rail washers	Nathan Manufacturing Co., New York.
Steam-heat gage	Ashton Valve Co., Boston, Mass.
Steam-heat regulators	Gold Car Heating & Lighting Co., Brooklyn, N. Y.
Suction hose	Hewitt Rubber Corp., Buffalo, N. Y.
Sanders	Viloco Railway Equipment Co., Chicago.
Headlight generators	The Pyle-National Company, Chicago.
Flexible connections steam line to headlight generator	Barco Manufacturing Co., Chicago.
Bell ringer	Superior Railway Products Corp., Pittsburgh, Pa.
Speed recorder	General Electric Company, Schenectady, N. Y.
Whistle	Nathan Manufacturing Co., New York.
Whistle valve and cylinder	Viloco Railway Equipment Co., Chicago.
Flexible connections between engine and tender	Franklin Railway Supply Co., Inc., New York.
Tender:	
Frame	General Steel Castings Corp., Eddystone, Pa.
Frame plugs	Huron Mfg. Co., Detroit, Mich.
Trucks	Buckeye Steel Castings Co., Columbus, Ohio.
Snubber springs	Cardwell Westinghouse Co., Chicago.
Wheels	Standard Steel Works Division of the Baldwin Locomotive Works, Philadelphia, Pa.
Axles	American Locomotive Co., New York.
Roller bearings	The Timken Roller Bearing Co., Canton, O.
Coupler; draft-gear yoke	National Malleable and Steel Castings Co., Cleveland, Ohio.
Rear uncoupling arrangement	Standard Railway Equipment Company, Chicago.
Brakes, clasp	American Steel Foundries, Chicago.
Draft gear	W. H. Miner, Inc., Chicago.
Pipe clamps	Illinois Railway Equipment Co., Chicago.
Tank steel	Lukens Steel Co., Coatesville, Pa.
Tank valves	Wm. Powell Co., Cincinnati, Ohio.

* * *



A Bus Operated by a Boston & Maine Subsidiary Halts at Brattleboro (Vt.) Station Before Starting Its Run to Springfield, Mass.

Systematic Freight Car Numbering?

A simple plan which would disclose car type and dimensions, expediting distribution and recording

By R. L. Sproul

Superintendent Car Service, Southern Railway

NEVER since freight cars were built and numbers applied has there been an accepted system used to designate types of cars by symbol or number for identification by classes and dimensions. The present practice of assigning numbers is complicated and without order. A road may own box cars numbered 10000 to 10299, the next numbers 10300 to 10599 may be coal cars, followed by stock cars 10600 to 10999—three classes of cars in one thousand car numbers in the same series.

The types of these cars are unknown to car-handling employees without reference to the Official Railway Equipment Register, a publication exceeding one thousand pages which is not readily available to many employees, with the exception of dispatchers, yardmasters, and higher officers.

Present Designations Don't Tell Enough

Some years ago, the mechanical department, through cooperation with the operating department, designated certain letters called A. A. R. designations for types of equipment. These designations, however, do not describe cars in sufficient detail to enable intelligent distribution, reporting, recording, statistics, etc., by classes and types, which information is most essential in these days of specialized car-loading. As an example: General service plain box cars are designated by the single designation "XM," applied to box cars of varying lengths, heights, and capacities; for descriptive information so essential to car-handling they are of little service.

Indiscriminate and haphazard methods of freight car numbering are expensive and inconvenient and a plan is here proposed for revision of the numbering system for freight cars, to mark cars systematically with a letter prefixed to the number, which letter would denote general dimensions, single-, double-, or end-loading doors, which details are first, and usually the only, requirements for distribution; and segregate the types for intelligent distribution, reporting, recording, and other purposes, without the necessity of reference to unavailable published lists.

Applying the plan to box cars, they may be divided into types as follows:

Symbol Letter Prefix to Car Number	Kind and Dimensions
X	36 ft. and less than 40 ft. in length, all heights.
B	40 ft. and less than 50 ft. in length, and less than 10 ft. high with single side-doors.
BA	40 ft. and less than 50 ft. in length, and less than 10 ft. high with double side-doors.
A	40 ft. and less than 50 ft. in length, 10 ft. and over high with single side-doors.
AB	40 ft. and less than 50 ft. in length, 10 ft. and over high with double-side doors.
F	50 ft. and over, 10 ft. high and over, without end-loading doors.
FX	50 ft. and over, 10 ft. high and over, with end-loading doors.
V	Ventilated, all types.

The above symbol designations are tentative only, and are offered as illustrating the plan; they may be changed or revised. Study and survey of each road's equipment should be made with the idea of confining the symbol to a single letter as far as possible, but in some cases two letters may be used where the number of types of cars owned is small—such as extra long flats, gondolas, and special type cars recently developed, e. g., closed hoppers and others.

It may take some years to accomplish the ends sought. A start can be made, however, by assigning proper symbols to new cars, and to cars being repaired, requiring new painting and stencilling. This can be done currently without duplication of numbers. New and repainted cars would bear the symbol prefix letter to the numbers, old cars would bear plain numbers until placed in shop for extended repairs.

Some years ago a proposal was made and carried out to apply the suffix "X" to initials of private line cars, such as tanks and refrigerators. Cars of private companies are now so marked and all know that car initials ending in "X" denote a car of private ownership, but the class of car is not designated by the suffix "X." They may be tanks, refrigerators, box, stock or any class of car and for the purposes sought in this proposed plan they are of little value.

Six Digits Are Sufficient

Since no railroad owns more than 75,000 of any one size and type of car, no number more than six digits would be needed, and as many of such cars owned number less than 9,999, only five digits including the prefix letter would be used. Thousands of cars now have six digit numbers, and much time, labor, and money would be saved in stencilling and reporting car numbers. An employee reporting a car with any of the foregoing prefixes, recording the movements or distributing equipment, would know without reference to any publication that North & South FX115 is a fifty-foot or over, 10-foot high box car with end-loading doors; A1400 a forty-foot, 10-foot high, single-door box car.

Two prefix letters could be applied to a series of cars containing up to 999 cars. For instance: 65 ft. low-side gondolas, GL127, or automobile loading device cars

AD209. Many of these cars are now numbered in six figure series. Only twelve roads now own more than 1,000 automobile loading device cars, out of 51 roads owning this type of freight equipment.

Any car man—be he conductor, clerk, yardman, dispatcher or any other—will see the advantage of this plan in reporting, recording, switching, and distributing. The key to the designating symbols would be no larger than a postal card, and could be easily memorized. The only key we now have is the 1,000 page Equipment Register.

Saving Words in Telegraphing

The plan would be of great value in home-routing, short-routing, filling orders and in the curtailing of telegraphing. Every car order today must detail the kind of cars ordered, particularly the general dimensions, and every repeat of the order must also carry the detail. Under this plan, the symbol prefix letter would describe the cars. Today, the order reads as follows:

"Send five fifty foot ten ft. high end loading door furniture cars to Cairo load Bagdad." *16 words*

Under this proposed plan, the order will read:

"Send five FX to Cairo load Bagdad." *8 words*

Carry this to completion through dispatchers, yard forces, switchmen, etc., and an idea may be gained as to the saving in telegraph orders alone. Daily telegraphic car reports and all messages giving description and dimensions of cars would be of fewer words.

We now home-route or short-route cars by initials and numbers only. Many cars are getting away which could be utilized if the dispatchers or car distributors knew their type and general dimensions. The suggested plan would prevent many orders being filled with improper sized cars; would curtail the cross-hauling of empty cars, of which we have heard much lately. There would be hundreds of thousands of cars numbered with only three, four, and five digits which now bear six digits. Car records would be classified by symbols of which there would be only 35, 40, or less, which at present number hundreds of series. There would be less writing on conductors' and interchange reports. The column "kind of car" could be eliminated from all reports.

The practice of numbering cars with numbers of six digits has been used for some years, in many cases unnecessarily, and has grown into an expensive and inconvenient habit. Why any railroad owning only 52,000 cars should number 44,000 of them with six figures when three, four, or five digits would suffice is hardly understandable. Reference to registration in the Equipment Register shows that Road "A" owns 85,000 cars, 80,000 bearing six figures. Road "B" owns 100,000, and 85,000 are numbered with six figures, and so on throughout the Register.

There are in W. & Z. Railroad registration of equipment in the Register three series of XM cars of the same dimensions, taking three lines to register:

10000 to 15895	5,896 cars
260500 to 262036	1,534 cars
306000 to 307021	1,021 cars
	8,451 cars

These 8,451 cars which are of the same type and dimensions could be renumbered into a series A1000 to A9451, five digits, and would save 2,555 stencilled digits on the 2,555 cars now bearing the six digits.

Saving Space in the Register

Another example: The registration of a certain railroad in the Register devotes 43 lines, or more than a page, to the description of XAP and XAR cars, and notes J-K-L-M-N-O-P-Q take another page to list the differences in the types. All of the cars of the same dimensions or kinds could be thrown together, a prefix assigned to each type and they could be registered in less than one fourth the space, eliminating all of the notes that require an additional page.

The above illustrates the jumbled system of numbering and registration of freight cars which makes it impossible to determine the type of car by the plain number, and the necessity of referring to the Equipment Register or by personal inspection of the car itself. Seldom is the Equipment Register at hand, or the car readily available for inspection, to all persons who need this information.

Any experienced car accountant will visualize the convenience of this plan in car recording. To record the records of "XYZ" Railroad cars now we prepare 126 pages, each with a separate series of numbers written in. If these cars were classified and symbol numbered, we would record them by symbol letters without reference to series. Car recording efficiency would be increased 25 per cent or more, and much time would be saved in making out the books, compiling location and other statements, and other record work which requires a knowledge of the class of cars. The symboled numbers would show the types of cars.

Time-Saving in CS Reporting

Recently the Car Service Division issued Special Car Order No. 42. With this order and each modification of the order a list of ownerships of fifty-foot box cars on a closely-typed foolscap sheet was attached. That would not be necessary if such cars were symbolized for identification, such as "F" or "FX" or any assigned symbol. We have to go through each series to get the wanted data, while under the plan we would turn to the record "F" or "FX" cars and there they would be found. The order itself would simply specify "F" or "FX" type of all or certain ownerships and no reference to Equipment Register or lists would be necessary. Recently there was received a request for location of fifty-foot or longer low-side gondolas. They were needed for a special shipment of long material on government contract.

No list of such ownership by series is published except the individual road registration in the Equipment Register, and it was necessary to refer to the registration of each railroad to find the serial numbers. Under this proposed plan the symbol letter would automatically denote the type.

About June 1, 1941, the Car Service Division issued an order for the preparation of Form CS-10-2 calling for information showing the number of ten types of box and device cars and three types of gondola cars located on foreign roads.

In order to furnish this data to the Car Service Division, which statement is but one of many which they request, it was necessary for us to classify each series of cars in order to make the count. This statement is to be furnished as of the first of each month. It requires 120 working hours to compile the report, which is the equivalent of one clerk 15 days. If the herein-described system of numbering freight equipment were in effect, and cars numbered and classified as proposed, this statement would be compiled in less than one quarter of the time now required, since the car numbers would be symbolized and the information gathered from consolidated records by a simple tally.

The examples cited are not occasional; they are monthly, weekly, and many of them daily. Requests of this character come *to* the car record offices, both local and general, from all sources—operating, accounting, traffic, etc.—and the volume is large. Many requests for information require much preparatory reference work, practically all of which would be eliminated by the plan of car numbering here proposed.

As in all proposals looking to economy in operation by railroads, objections will be made to this plan. The usual objections—such as "it is impossible," "it cannot be done," "the cost will be prohibitive," etc.—will be raised. The first objection will be the cost of putting the plan into effect.

Objections to the Plan

In this proposal we have the almost unheard-of inauguration of an economy without the usual outlay for machinery, materials, etc.—a plan that begins to economize with the first step. For instance: A. B. X. Railroad car 280049 is one of 75 covered hoppers. The new number will be CH49; two digits saved in the stencilling and two digits in writing and recording each subsequent movement during the life of the car. Apply this to the hundreds of thousands of four-, five-, and six-figured car numbers which will be reduced to three-, four-, and five-digits, and we have an idea of the volume of labor saved which can hardly be estimated—but very plain and intelligible to the thousands of car reporting and recording employees of our railroads.

Another objection which may be raised to this plan is that the suggestion for separation of types of box cars does not describe them in exact detail, and that is not necessary for purposes of distribution and reporting. We do not suggest any changes in the detailed dimension and capacity stencilling on cars, or in A. A. R. designations, or publication of full description of cars in the Railway Equipment Register as required by the Interstate Commerce Commission. The object of this proposal is to simplify the method of determining the types of cars railroad employees must be familiar with in order to perform their daily duties, and to assist them in economically and properly recording and distributing cars. The number of the car with the added prefix letter will, for all practical purposes, instantly identify its type, reference to descriptive lists, such as the Equipment Register, will not be necessary in such cases.

Quicker, Less Costly Reports

Other objections have been and will be raised. After consideration of them, none has so far been found insurmountable. The plan will effect great economies in distribution, recording, switching, etc. Thousands of numbers will be of fewer digits to record on bills of lading, waybills, expense bills, and all car reports. Greater efficiency will obtain from the use of cars, since all will know the type of car instantly without reference to Registers or published lists and act promptly. The reduction of digits in the car number will permit of quicker and easier compilation of reports and documents with fewer errors.

Car records, local and general, are the basis for more current and daily "up-to-date" information required by other departments and the shipping public than any other records maintained in railroad operation, as well as the basic source of practically all operating statistics. It would appear, therefore, that a revision of the haphazard methods now used in compiling and making these records is necessary and that we should avail ourselves of a means of simplification which will bring greater efficiency and economy.

The plan which is here proposed will accomplish these ends, and save our railroads unestimated thousands of dollars, by curtailing the work necessary to complete the records, and make for economy in telegraphing, distribution of equipment, switching, tracing, stencilling, and practically every operation connected with the handling of cars.

How About *Your* Ideas for Greater Railroad Efficiency?

There never was a more appropriate time than the present, in the railroad business, to get away from the familiar poetic doctrine:

Full many a gem of purest ray serene
The dark, unfathomed caves of ocean bear.
Full many a flower is born to blush unseen
And waste its sweetness on the desert air.

For the railroads to serve the nation at war, to the utmost of their capacity, railroad men everywhere need to know about the hidden "gems" and "flowers" on *your* railroad—ideas or accomplishments which may lead the other fellow, also, to more efficient railroading.

Some there may be who will not agree with Mr. Sproul's ingenious proposal, but they, too, will felicitate him for his public spirit and railroad spirit in taking the trouble to make his suggestion available for publication here, where it will not escape the attention of those who might find his thought helpful.

Railroad progress is the sum total of hundreds and thousands of ingenious ideas and experiments, which start with individuals—and then spread, in ever-widening circles, to the whole industry. The press of the industry has always been one of the principal devices in this process of expanding progress, and it stands ready now, as always, to perform its essential function.

But there is urgency in the present situation—of the railroads as well as the nation. They need progress in efficiency now, as never before—but they also need it *more quickly.* Ingenious railroaders can enormously expedite the process of expanding efficiency if they will make known through the press of their industry, their local discoveries and well-thought-out suggestions, which may help the other fellow to greater efficiency in his work.

Has the man who has evolved a time-saving or material-saving or work-saving idea done his full duty to his industry and his country, if he merely applies it locally and "sees that he tells no man"?

Publicity is a necessary factor in progress and the facilities of this paper and its sister railway publications are at the service of this industry, to do all in their power to help make epochal the coming months of railroad service to the nation.—*Editor.*

Pere Marquette Has Rehabilitated Its Canadian Division

Heavier power follows larger rail, better ballast, and other important improvements — Result is longer trains, greater economy in serving road's high-grade traffic

Part I

THROUGH an extensive improvement and rehabilitation program that it is now bringing to completion on its 127-mile single-track Canadian division, the Pere Marquette is beginning to realize important advantages and economies in the operation of tonnage freight trains over this line. By converting to heavy-duty standards a line that had previously been of relatively light construction, the railroad is able to increase substantially the size of the power that it is capable of carrying, thereby becoming beneficiary to all the advantages that this implies. Hence, since this line is part of a through route between Detroit and points west on the one hand and Buffalo and other points in the East on the other, its rehabilitation has had the effect of strengthening the railroad's competitive position relative to traffic moving between these areas.

Briefly, the improvement program has included the strengthening of the track structure by the application of heavier rail, crushed stone ballast and treated hardwood ties; a complete rearrangement of the passing tracks on the division to permit the efficient handling of longer trains; the strengthening of a long steel viaduct; and the construction of a complete new engine terminal, the latter being made necessary by the introduction on the line of heavier and longer locomotives.

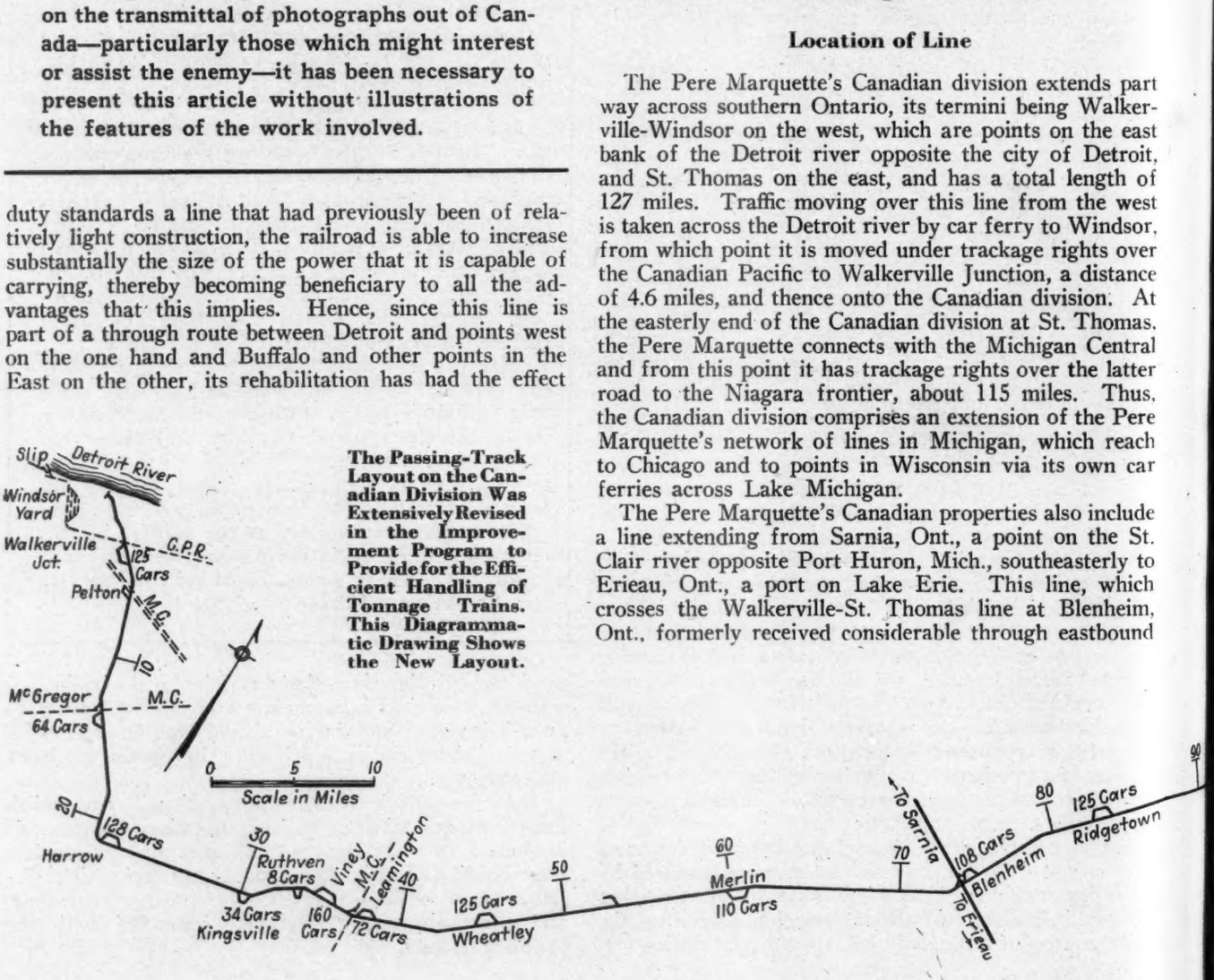
Sorry—No Pictures

Owing to stringent war-time restrictions on the transmittal of photographs out of Canada—particularly those which might interest or assist the enemy—it has been necessary to present this article without illustrations of the features of the work involved.

Location of Line

The Pere Marquette's Canadian division extends part way across southern Ontario, its termini being Walkerville-Windsor on the west, which are points on the east bank of the Detroit river opposite the city of Detroit, and St. Thomas on the east, and has a total length of 127 miles. Traffic moving over this line from the west is taken across the Detroit river by car ferry to Windsor, from which point it is moved under trackage rights over the Canadian Pacific to Walkerville Junction, a distance of 4.6 miles, and thence onto the Canadian division. At the easterly end of the Canadian division at St. Thomas, the Pere Marquette connects with the Michigan Central and from this point it has trackage rights over the latter road to the Niagara frontier, about 115 miles. Thus, the Canadian division comprises an extension of the Pere Marquette's network of lines in Michigan, which reach to Chicago and to points in Wisconsin via its own car ferries across Lake Michigan.

The Pere Marquette's Canadian properties also include a line extending from Sarnia, Ont., a point on the St. Clair river opposite Port Huron, Mich., southeasterly to Erieau, Ont., a port on Lake Erie. This line, which crosses the Walkerville-St. Thomas line at Blenheim, Ont., formerly received considerable through eastbound



The Passing-Track Layout on the Canadian Division Was Extensively Revised in the Improvement Program to Provide for the Efficient Handling of Tonnage Trains. This Diagrammatic Drawing Shows the New Layout.

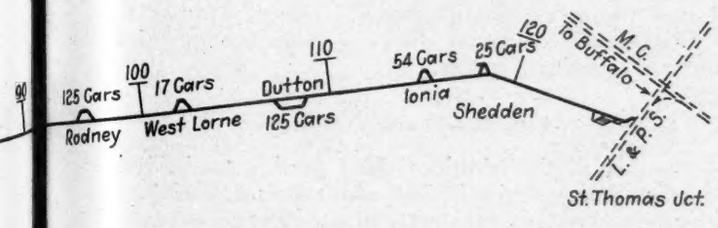
traffic by car ferry from Port Huron, but this traffic now moves largely through Detroit and thence over the Canadian division. Obviously, this has resulted in an increase in the traffic load imposed on that part of the line between Walkerville Junction and Blenheim.

Originally, the Canadian division was of relatively light construction, including 85-lb. rail, many soft-wood ties, no tie plates and pit-run gravel ballast. Moreover, there was a 1,215-ft. steel viaduct across Kettle river near St. Thomas, which, built in 1901, was capable of carrying loads equivalent only to Cooper's E40 rating, thereby imposing a definite limit on the size of power that could be operated over the line. Also, the original construction included a number of untreated open-deck timber trestles, but some years ago the railroad began replacing these with ballast-deck structures of treated timber, with the result that latterly they had not been a governing factor. Because of the light construction of the line, the heaviest locomotives assigned for operation over it were capable of drawing trains of only 2,000 tons, or about 45 cars.

Potentially Important Link

Nevertheless, it was recognized by the railroad that its Canadian division comprised a link in an important route between its lines in Michigan and the East, and that the full potentialities of this route could only be realized by taking such steps as were necessary to bring the line up to the modern conception of heavy-duty construction, thereby making possible higher train speeds, greater reliability of service and reduced maintenance costs. Not only would the railroad thus place itself in a better position to compete for the substantial volume of traffic, consisting largely of packing house and dairy products, grain and automobiles (in normal times), that originates on its lines for movement to eastern points, as well as overhead traffic, but the strengthening of the line to the extent of permitting it to carry substantially heavier power would result in an improvement in operating efficiency and a consequent reduction in costs.

There were no insurmountable obstacles to the consummation of an adequate improvement program at a reasonable cost. The region traversed is flat to slightly rolling, with the result that the original curves and grades were relatively favorable. In fact, the maximum curvature is only 4 deg., and, in the entire distance of about 123 miles between Walkerville Junction and St. Thomas, there are only 24 curves. One tangent is 19 miles long, another about 16 miles and a third, 14 miles. With few exceptions, the maximum grade is 0.5 per cent, the most important exception being in the vicinity of Viney, Ont., which is located on the crest of a ridge. Even here the maximum grade ascending eastward is only 0.7 per cent, although the maximum grade ascending westward is 1.15 per cent. In neither case are the maximum grades more than a mile in length. As already mentioned, the only bridge of important size is the structure across Kettle river.



Map of a Portion of the Pere Marquette Showing the Strategic Location of the Rehabilitated Canadian Division

Several years ago the railroad made a careful analysis of the advantages and economies that would accrue through the introduction of heavier power on the Canadian division.

The above mentioned studies were based on the use of Mikado locomotives, a number of which, it was expected, would ultimately be released from the company's lines in the United States by the acquisition of new power that it contemplated acquiring. These Mikado locomotives, it was estimated, would be capable of hauling trains of 65 to 70 loaded cars eastward or 125 empties westward. As the outcome of the studies, it was concluded that the introduction of the heavier locomotives on the Canadian division would result in savings in operating expense in excess of $125,000 annually.

Since the availability of the Mikado locomotives for use on the Canadian division was contingent on the acquisition of new power to replace them on the United States lines of the company, considerable time remained in which to carry out the necessary improvement work. Hence, a program of gradual improvement of the tracks and structures of the Canadian division was undertaken, looking forward to the time when conditions would permit a sufficient number of Mikado locomotives to be made available for operating that division.

Track Improvements

The track program, which was undertaken in the early 'thirties, contemplated the ultimate replacement of all of the existing 85-lb. rail with 105-lb. Dudley section rail, although some of the lighter rail, and a limited amount of 90-lb. rail, had been laid only a few years previously, and it was not considered necessary that all of this lighter rail be changed out before the heavier locomotives were placed in service. In other words, the rail program was directed primarily toward the replacement as rapidly as possible of all the 85-lb. rail that was considered worn out, and such has been the progress in this direction that only three miles of this light weight, worn rail will remain in track by the end of this year.

To be specific, up to the end of 1941, a total of 59 track miles of the 105-lb. rail had been laid, leaving 25 miles of 90-lb. rail and 40 miles of the 85-lb. section. Of the latter, only 14 miles is considered worn out and, of this, 11 miles will be replaced this year. The track construction for heavier rail includes six-hole joint bars,

double-shoulder tie plates on all ties, and adequate provision against rail creepage, consisting of 12 anti-creepers per panel at all locations. Formerly the rail was anchored only at the more troublesome locations.

As part of the track improvement program, only No. 4 and No. 5 creosoted hardwood ties, 8½ ft. long, are now being inserted in renewals. Also, a consistent program of stone ballasting is being carried out, which, to date, has resulted in the installation of crushed limestone ballast on a total of 75 miles of the line, with 10 miles more to be ballasted this year. Ultimately, there will be 112 miles of stone ballast, the remaining 11 miles being on washed gravel ballast. The stone ballast is placed to a depth of 6 to 8 in. below the bottoms of the ties, the original gravel and sand acting as sub-ballast. As the ballasting work progresses, the embankments, which had become considerably reduced in width over the years, are being widened.

Still another aspect of the improvement work involves the installation of French drains in the roadbed. For considerable distances this line is built on low ground, which, in some instances, is even below the level of Lake Erie, and for this reason the presence of water in the roadbed has constituted something of a problem. As a corrective measure, systems of French drains, placed laterally in the roadbed, are being installed at the troublesome locations. Already about nine miles of the line has been treated in this manner and it is expected that this will ultimately be extended to 35 miles.

Kettle River Viaduct Strengthened

As noted at the outset, the bridge work that was required in connection with the improvement program consisted mainly of the strengthening of the 1,215-ft. steel viaduct across Kettle river. This structure, which has a height of about 110 ft. above the water level in the stream, consists of deck-girder spans supported on steel towers, the legs of which are carried on stone masonry pedestals. Except for the span across the stream, which is 75 ft. long, the spans between towers are 60 ft. in length, while the tower spans are 40 ft. long. The objective was to strengthen this structure sufficiently to permit it to carry Cooper's E60 loading. It was found that this could be done by the relatively simple procedure of installing additional longitudinal and transverse struts and bracing in the towers, by extending the top and bottom cover plates in the girder spans small amounts, and by installing additional bottom lateral bracing in the main span.

Footings in Unstable Subsoil

However, the problem of strengthening this bridge was not confined to the superstructure. The subsoil in which some of the tower footings are supported at the ends of the bridge, and particularly at the east end, is unstable, consisting of alternating layers of clay and sand. At the east end, the instability of this formation was augmented somewhat by the presence of seepage water. As a result of this condition, several of the masonry pedestals near the ends of the bridge had become slightly displaced, or tipped, in the down-hill direction, thereby disturbing the relationship between the pedestals and the posts supported on them. To remedy this condition at two of the pedestals, the existing bearing shoes for the tower posts were removed and replaced with new shoes, which were especially built to conform to the inclined upper surfaces of the pedestals. By this expedient, the integrity of the bearings for the two posts was completely restored. At several other pedestals the insertion of metal shims was sufficient to correct the situation.

The pedestals that were affected by the unstable subsoil conditions were confined to one tower at the west end of the bridge and to two towers at the east end. To preclude further movement of these pedestals, a cofferdam of steel sheet piling was driven around each of them, and, in addition, a sub-surface drainage system was installed in the vicinity of the two towers at the east end of the bridge to dispose of the seepage water that had contributed to the instability of the subsoil at that end of the structure.

More Long Passing Tracks Required

When the strengthening of the Kettle River bridge had been completed, the track and structures were considered in condition to permit Mikado locomotives to be operated over the line. Accordingly, on November 27, 1940, two locomotives of this type were transferred to the Canadian division for test purposes. Careful observation of the operation of these locomotives confirmed the results of the studies that had been made previously. As anticipated, it developed that, because of the longer train lengths that would prevail if the heavier power were used, it would be necessary to re-arrange the passing track layout on an extensive scale in order to accommodate the longer trains. It was decided that, for efficient operation, passing tracks used for meets of tonnage trains should be capable of holding trains of 125 cars.

At the time that the improvement program was undertaken there were no long passing tracks on this line. By 1940, however, five of the existing passing tracks had been lengthened in preparation for handling longer trains. The locations and capacities of these passing tracks are as follows: Harrow (mile 21.1, measured from the west end of the line), 128 cars; Wheatley (mile 45.98), 125 cars; Blenheim (mile 74.70), 108 cars; Rodney (mile 97.77), 125 cars; and Dutton (mile 109.01), 125 cars. As a result of the experience that was obtained with the two test locomotives, additional long passing tracks were provided at four other locations by extending existing trackage.

One of the additional passing tracks was provided at Walkerville Junction (mile 3), where it had been found that the lack of adequate passing-track facilities constituted a source of train delays. Originally, there was a 4,740-ft. passing track at this location with a capacity for 95 cars. In the improvement work this track was extended 1,729 ft. to the east, giving it a length of 6,469 ft. and a capacity for holding a 125-car train. This track has a No. 16 turnout with a spring switch at the east end, and a No. 12 turnout with a spring switch at the west end, which permit trains moving in opposite directions to pass each other at this point without stopping, eastbound trains using the main track and westbound trains the passing track. Other work at this location included the installation of signals required for the spring-switch layouts.

Passing Track at Viney

Another of the additional long passing tracks is located at Viney (mile 35.39) which, as mentioned previously, is located at the crest of a ridge that is reached from both directions by moderately heavy grades. Originally there was a passing track at this point with a length of 1,674 ft., and a capacity of about 33 cars. In the

improvement program this track was extended 2,972 ft. to the east and 2,924 to the west, with the result that it now has a lengh of 7,570 ft. and a capacity for holding a 160-car train. By extending this track at both ends, the center remained at the summit of the hill, thereby facilitating the starting of tonnage trains in either direction.

As part of the work at Viney, No. 16 turnouts with spring switches were installed at both ends of the extended passing track, together with the necessary signals. The spring switches were so installed as to permit all eastbound trains to proceed through the west switch on the main track and westbound trains to pass onto the passing track through the east switch. Thus, as at Walkerville, the revised layout at Viney is equivalent to a short stretch of double track, precluding the necessity for trains stopping to open and close switches.

A third additional passing track of sufficient length to permit meets of tonnage trains was installed at Merlin (mile 61). Originally there was a passing track at this location having a length of 3,558 ft. An extension 2,219 ft. long was built at the west end of this track, giving it a total length of 5,777 ft. and a capacity for 110 cars. A No. 16 turnout with a spring switch, together with the necessary signals, were installed at the extended end. The extent to which it was possible to lengthen this track was limited by the presence of a public highway crossing at the east end and a bridge at the west end. As lengthened, the track occupies the entire distance between these two facilities.

The fourth long passing track was provided at Ridgetown (mile 84.5). Originally there was a passing track having a length of 3,474 ft. at this location. This track has now been extended 3,088 ft. to the west, making it 6,562 ft. long and giving it a capacity of 125 cars. A No. 16 turnout with a spring switch was also provided at the west, or extended, end of this track. In addition to the spring switches that were placed at the extended passing tracks, No. 16 turnouts with spring switches were installed at the westerly ends of the existing passing tracks at Wheatley (mile 45.98) and Rodney (mile 97.77), both of which have capacities of 125 cars. Most of the track work involved in the re-arrangement of passing tracks was carried out in 1941.

Some Trackage Retired

The provision of additional passing tracks at the four locations described above, together with the increased operating efficiency, made possible by the availability of these additional long passing tracks with their spring-switch layouts, made it possible to shorten or retire existing passing tracks at seven different locations. Also, five crossovers were eliminated, and two spur tracks were retired. The effect of all these track changes was to bring about a net reduction of 8,062 lin. ft. in the side tracks to be maintained, and the elimination of 12 main-line and 7 side-track turnouts. Thus, entirely aside from the operating advantages of the new passing-track layout, substantial savings in maintenance expense will be realized as the result of the net reduction in the amount of track to be maintained, which will be offset only in small part by the increased cost of maintaining the new spring switches and their signal layouts.

Since the first two Mikado locomotives were placed in operation on the Canadian division in 1940, 10 additional engines of this type have been transferred to the line and the use of these engines has already resulted in an increase of 50 per cent in the train load. [Part II of this article, devoted largely to a description of the new engine terminal at St. Thomas, will appear in the next issue.]

* * *

War Provides "Education" in Railroading

"Mr. Eastman's order that railroad cars be loaded to capacity is as he says drastic, but it is of course completely logical. Fortunately, it finds all concerned in a highly cooperative spirit and the result will assuredly be carload figures never before approached in the industry's history.

"The present generation of railroad managers hardly realizes, perhaps, how recent is the great development of scientific railroading. Railroads are about a hundred years old in the world. For the first fifty years of that period railroad practice was very much hit or miss with respect to the prime consideration—that of load. Statistics covering these years are extremely incomplete and only in the closing years of the last century were any figures at all worth while available. Yet in the very babyhood of the industry a Dublin scientist, Dr. Dionysius Lardner (generally known by his fellow citizens as Dinny) published about 1840 or so, a study of the railroad, in which he pointed out that load was the key to efficient operation. It was not however until the 'Nineties that real interest developed in this country and to the late James J. Hill must be given the credit for stirring it up.

"In the early 'Nineties the average number of tons per freight train carried by American railroads was about 175 tons. Only two of the main roads averaged as much as 300 tons—Lake Shore and Chesapeake & Ohio. The then president of Lake Shore had had the matter in mind, for he had reduced the road's grades in order to avoid increasing size of motive power. By 1900 however trainload was the slogan all over the country and grade reduction, improvement of motive power and increase in freight car capacity became everywhere the order of the day. At that time a 20-ton box car, and a 30-ton coal car were standard, and the average tractive capacity of freight locomotives probably less than 25,000 lb. In 1900 for the first time the average revenue per freight train mile crossed $2. In 1940 the average capacity per freight car was 50 tons, the average tractive capacity per locomotive was almost 51,000 lb. and the average trainload was 849 tons with an average freight train-mile revenue of over $8.

"One result of war experience this time will probably be a permanent tightening up of certain more or less wasteful practices that have developed as a result of competition, especially circuitous routing of freight. But the difficulties here are great due to the complexity of the railroad map, and the intricacies of tariffs. There are those who believe that the future will see the revival of the pooling system which went out when the Interstate Commerce Law went into effect. Also, sooner or later the question of consolidation must be faced, and the present return of traffic tide to the rails opens a new possibility for progress in that direction. Shippers, moreover, will probably find their privileges such as transit, etc., considerably restricted, as also their choice of routes. In any event it is certain that a standard of plant operation will have been set by the end of the war that will not be abandoned afterwards."

From the Wall Street Journal.

Traffic Trends Get Close Study on the New Haven

Analysts examine into numerous situations to disclose means of increasing net earnings and checking efficacy of innovations—Special technique developed to explore performance and potentiality of passenger business

Part II

THIS is a report of the comprehensive program of traffic research and analysis, developed by the New Haven (a) to keep its executives *currently* informed regarding trends of production compared to railroad movement of the principal 28 commodity groups of its freight traffic, (b) to develop quantitative data from which informed decisions (i. e., such as rate or service changes) can be made to deal with specific situations, (c) to check the results of innovations in rates or service, ascertaining the degree of success they have attained and (d) to provide similar information with regard to passenger traffic.

In Part I of this exposition (*Railway Age,* August 22, page 302) were described three classes of work carried on by the road's freight traffic analysts (viz., (1) analyzing current records of freight traffic—"potential" and actual compared; (2) maintaining up-to-date extensive files of economic information pertaining to the road's territory; (3) conducting special studies to determine means whereby the railroad may enlarge its net earnings). Four additional classes of investigation by the freight traffic analysts are described in this second installment of the report, followed by an exposition of the analysis the road makes of its passenger traffic performance.

"East End" Exhaustively Scrutinized

(4) *Economic and Traffic Trends and Conditions in Particular Areas or Cities:*

(a) *New Haven "East End" Traffic Possibilities:* In connection with the financial reorganization of the company, it was desired to know what the future traffic prospects were for the "East End" of the New Haven. First, research was made into the business prospects of the territory. Analysis was made of trend of population over the years in the East End compared with the rest of the railroad's territory and the United States. The same was done for manufacturing activity; the trend of manufacturing activity in each city in the territory was analyzed, and that of each important type of industry in each city, as well as the trend of each major industry for the territory as a whole and its relation to that industry for the country as a whole. An analysis was made of the trend of agriculture (particularly cranberries) and fishing. Study was made of the migration of industry over the years and the reason therefor, as well as of new industries located in recent years. Analysis was made of the trend of this section as a suburban and residential area and as a tourist and recreation center.

Thereafter, study was made of traffic conditions; the amount of rail traffic, competition from other forms of transportation, and changes in methods of distribution; analysis of the railroad's tonnage for a period of years, both for the territory as a whole and for individual stations; the trend of trucking in the area and the relative amount of the territory's traffic moving by truck and rail; the trend of highway construction and improvements and subsidies to trucks; the trend of traffic moving by boat in the area and pipeline competition. All these studies were used in the court hearing of the case involving the relationship of the New Haven and two of its leased lines, the Old Colony and the Boston & Providence.

Probing Need for Abandonments

(b) *Economic and Traffic Conditions in Boston Section:* Data were prepared in connection with the proposed abandonment and curtailment of service on lines known as the "Boston Group," such data comprising the population of each town served, highway distance from nearest other railroad line, location and nature of highways in territory, nature of industries in territory and dependence on the railroad, location and other factors about the most important plants, trend of freight traffic on the line, and list of all common carrier truck lines and their routes in the territory. Other supplemental data were prepared covering competition and industrial trends. This information was presented at hearings of the Interstate Commerce Commission.

(c) *Defense and Government-Financed Plant Awards:* Analysis is currently made of defense awards in the railroad's territory in relation to other parts of the country, and awards by cities and towns in the territory. Also, analysis of defense plant expansion in the railroad's territory compared to the United States.

5. *Studies of Profitableness of Changes Recently Made and of Rate Proposals:*

(a) *"Trailer-on-flatcar" Service:* After this service had been running several months between Boston and New York, study was made of its efficacy. Since information concerning revenues and expenses had already been prepared, no work on this score was necessary. Study was made of possible effect of trailer-on-flatcar service on the railroad's regular carload and l.c.l. traffic; the relative advantages from a gross and net revenue point of view of securing traffic in trailer-on-flatcar service versus regular carload or l.c.l. service; and possibility of recovering competitive tonnage with this service compared with regular rail services. The road's revenues from this service are now running about $200,000 per year.

(b) *Estimated net income from freight of a forwarding company,* requiring analysis of revenues and expenses.

(c) *Various checks of proposed rates* to determine net revenue available after operating expenses. These computations have served as guides as to whether certain proposed rates should be established, or other rates cancelled.

(d) *An analysis of the profitableness of the handling of milk* on a particular run—involving analysis of revenues, expenses, effect on passenger service, etc.

6. *Business Conditions Reports:* A report is prepared semi-monthly for the traffic vice-president covering business conditions in those industries which are important traffic producers for the railroad. Also, each month an article is written for "Along the Line," railroad employees' magazine, covering business and freight traffic conditions in order that railroad employees may be better acquainted with where the railroad stands. Examples of these reports will be published later in *Railway Age.*

7. *Forecasting Business and Freight Traffic Conditions:* Each month a forecast of freight traffic is made for the ensuing one.

Periodically, longer term forecasts are required. Recently, a special study was made to estimate freight traffic requirements for 1942. Several hundred shippers were interviewed to secure their opinions as to the amount of traffic they expect to ship during that period. Also interviewed were government agencies, trade associations, the Army, the Navy, A. A. R., banks, etc., to obtain their opinions as to the outlook. Results of individual shipper's interviews were classified by principal commodity groups and by weighing each shipper's opinion by his 1941 tonnage, a weighted average opinion was secured under each major commodity group. This opinion was then compared with that of the trade association or other central agency representing each industry. Estimate was then made for the 1942 freight traffic.

8. *Miscellaneous Studies or Work.*—This has covered various sorts of jobs which are outside the regular duties of other parts of the traffic department. Typical examples follow:

(a) Data were compiled covering tonnage handled in connection with other roads broken down by roads as between anthracite, bituminous, and other traffic, 1920 through 1940.

(b) Analysis of relative changes in recent years of the coal traffic of the Boston & Maine and New Haven, involving a study of consumption, competition, etc., in each territory.

(c) Preparation of special data to be used in conference with members of the Interstate Commerce Commission regarding discontinuance of downtown piers at New York, data covering number of cars handled, expenses of marine floating, station handling, and similar information.

(d) Estimated amount of steamship freight transferred to the railroad after discontinuance of the New England Steamship Company (New York Lines), involving an analysis of the steamship freight prior to discontinuance, and the amount of traffic which with discontinuance had been or was going to be lost to the trucks or boat service.

(e) Preparation of a few miscellaneous statements pertaining to train service and general summary of statistics covering the railroad, the New England Transportation Company, and the New England Steamship Company.

Why a Separate Section for Research?

A separate section devoted to research and special studies has been found to permit a continuity of effort with little interruption of the normal functioning of other parts of the traffic department. In some cases, it permits a fresher or newer point of view towards a problem than can reasonably be expected from one who has been in close daily contact with it for many years. It is believed, however, that this "fresh point of view" might easily be carried to the extreme. To avoid this and to have the benefit of the experience and knowledge of those in close contact with the particular problem being studied, it is essential at the outset of the work on many studies, and as they progress, that there be frequent consultation with members of other parts of the traffic department which will be affected or who might shed light on the particular problem.

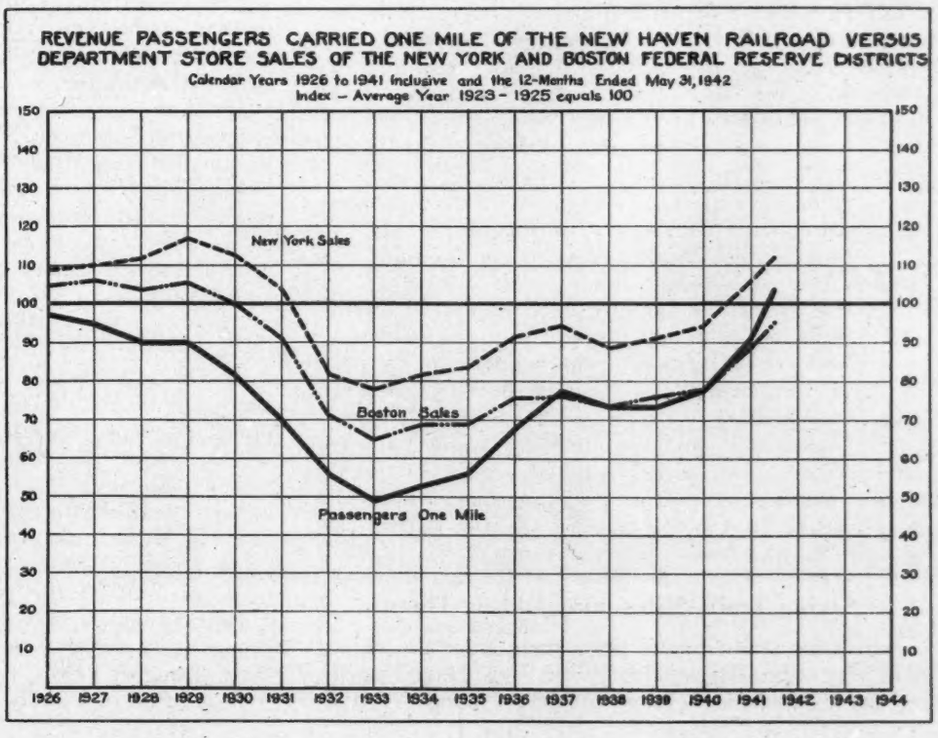
Close Co-operation With Other Departments

Where studies involve a small amount of operating data, consultation is held with the division of the operating department directly interested. Where the study may involve a large amount of other than traffic work, a committee is usually formed comprised of representatives of the various departments to carry on a co-operative study.

This practice of close consultation has been found to serve another purpose than securing the benefit of the knowledge and advice of the best informed. Whenever a committee is set up to study subjects which may concern other departments of the railroad, some question may be raised as to just what they are doing. Where those who are normally concerned with the subject under study are fully consulted at all times or even are included as participants in the work, the committee charged with making the study, aside from gaining invaluable advice, also achieves the confidence of others in its work and hence more of a willingness on the part of others to accept its findings. In some instances, this consultation, as the work progresses, results in changes being made prior to the submission of a final report. Research which does not gain acceptance in changed and improved practices is so much wasted effort.

The New Haven's freight traffic is now running at the highest level in the railroad's history. Revenue ton-

Passenger Traffic Is Retail Trade And the Trend of Department Store Sales is a Fair Comparative Gage


REVENUE PASSENGERS CARRIED ONE MILE OF THE NEW HAVEN RAILROAD VERSUS DEPARTMENT STORE SALES OF THE NEW YORK AND BOSTON FEDERAL RESERVE DISTRICTS
Calendar Years 1926 to 1941 Inclusive and the 12-Months Ended May 31, 1942
Index – Average Year 1923 – 1925 equals 100
New York Sales
Boston Sales
Passengers One Mile
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944

miles in May were 24.5 per cent higher than October, 1929, which was the highest figure attained prior to 1942. Revenue freight ton-miles in May, 1942, exceeded May, 1929, by 49.9 per cent, May, 1918, by 63.3 per cent, and May, 1917, by 59.8 per cent.

How Passenger Traffic Is Studied

The New Haven's passenger statistical department has four people as its regularly assigned personnel. Both the head of the department and his chief assistant have had broad railroad experience, gained from work not alone in the traffic department, but in the operating, accounting and executive departments of the railroad as well. The original general purpose of the department was to study all ways and means to improve the net passenger income of the railroad, as well as to analyze carefully current passenger traffic statistics to note changes in traffic trends throughout the entire system.

It is a well-known fact that passenger traffic and passenger revenues are of greater importance to the New Haven than to any of the other principal railroads in the United States. The New Haven's revenue from passenger service in 1941, including mail and express, represented 35.0 per cent of the system's total operating revenues. Only three railroads today—the Pennsylvania, New York Central and Southern Pacific—have greater passenger revenues than does the New Haven.

Shortly after this new department was formed, it made a survey of all statements pertaining to passenger traffic and passenger revenues with the end in view of obtaining as complete a picture as possible of the passenger situation on the New Haven. Certain statements were changed to furnish more complete information and several new statements were instituted so that today a complete running record is available of passenger traffic and revenues on various system lines for at least the past five years.

The work of the department falls into the following general classifications:

(1) Maintaining records which extend back for as many years as the information can be obtained on all available New Haven system passenger traffic statistics.

(2) In addition to maintaining passenger traffic records of the New Haven, records are also kept on all forms of competitive traffic throughout the territory, where such information is available, including traffic checks of vehicular travel on the highways.

(3) Annual check of passenger traffic density on each section of line.

(4) Annual comparison of railroad traffic, revenues, and expenses with that of other railroads.

(5) Forecasting periodically passenger revenues from a month to a year or more in advance.

(6) Preparation of exhibits, etc., for use in hearings before State Public Utility Commissions and the Interstate Commerce Commission in support of proposed passenger fare changes, proposed changes in passenger train service, etc.

(7) Conducting special studies of various passenger traffic problems, including proposed changes in various types of passenger fares, proposed passenger train equipment changes, studies of passenger train service on various lines of road, etc.

Saving Train-Miles, and Adding Them

Numerous studies have been made since the department was organized relating to the New Haven passenger traffic problem, the more important being:

(a) Studies conducted during the years 1937-1940 in collaboration with other departments of the railroad pertaining to the Boston suburban passenger problem. A comprehensive survey was made of all passenger train service operated into and out of Boston by the New Haven. In addition to the survey of railroad train service, studies were made of all other forms of competing transportation, developing the daily volume of all classes of travel into and out of Boston and the proportion being handled by the railroad.

As a result of these studies made, authority was obtained from Massachusetts Department of Public Utilities and the Interstate Commerce Commission to close 91 passenger stations and to discontinue in the neighborhood of 700,000 passenger train-miles and 1,700,000 passenger train car-miles per annum, with a relatively small loss in passenger train revenue.

Revenue Passengers Carried One-Mile of the New Haven Railroad versus Department Store Sales of the New York and Boston Federal Reserve Districts

Calendar Years 1926 to 1941 Inclusive and the Twelve Months Ended May 31, 1942

Index—Average Year 1923-1925 Equals 100

Year	Revenue Passengers One-Mile New Haven Railroad	Department Store Sales Federal Reserve Districts	
		New York	Boston
1926	97	109	105
1927	95	110	106
1928	90	112	104
1929	90	117	106
1930	82	113	100
1931	70	104	91
1932	56	82	71
1933	49	78	65
1934	53	82	69
1935	56	84	69
1936	68	92	76
1937	78	95	77
1938	74	89	74
1939	74	91	76
1940	78	95	78
1941	91	106	89
12 Months Ended May 31, 1942	104	112	95

More Trains, More Revenue

(b) Following the discontinuance of passenger train service on the New York, Westchester & Boston Railway (an electric transit line in the New York area, affiliated with the New Haven) as of December 31, 1937, close attention was given to the increase in passenger traffic between New York City and New Haven stations between Mount Vernon and Port Chester, N. Y. Because of the very large increase in passenger travel, it was deemed advisable to make an exhaustive study as to whether it would be to the railroad's advantage to provide more frequent service between New York City and Port Chester.

A survey was made and effective April 30, 1939, passenger train service was substantially improved between New York City and Port Chester. It has been estimated that additional service provided has had the effect of improving the New Haven's net passenger revenue by at least $200,000 per annum.

(c) Because of the constantly increasing highway and air competition affecting the railroad's passenger travel between New York City and Boston and between New York City and Springfield, which seriously threatened 60.0 per cent of the passenger revenues of the New Haven System, a survey was made of the through passenger train service operated between these cities in the early spring of 1940.

As a result of a study made in collaboration with other

departments, effective April 28, 1940, several new passenger trains were added to the New York-Boston service with trains scheduled to leave New York City and Boston on the hour from 8 a.m. to 7 p.m. inclusive. Also, the train service between New York City and Springfield was greatly improved.

Immediately following the establishment of improved train service, an increase was noted in the number of passengers carried by the through trains and during the year 1941 a new record was established for the number of through New York-Boston passengers carried by the railroad. The new figure exceeded the 1929 carryings by 138,000 and the peak year of 1920 by 67,000 passengers.

At the present time, with the volume of passenger traffic on the New Haven exceeding all previous levels, the records tabulated during the past five years have assisted materially in making prompt decisions as to what to do in the face of constantly increasing travel. The volume of passenger traffic handled during the month of June, 1942, measured by revenue passengers one-mile exceeded all previous months in the history of the railroad.

During June, 1942, the New Haven Railroad reported the highest passenger revenue for any June in the entire history of the company, the nearest approach to this year's figure occurring in June, 1924. Compared with the month of June last year the New Haven system passenger revenue increased 72.0 per cent.

Increased revenues were not confined to any particular territory—in fact they were spread throughout the entire system. To furnish several illustrations, passenger revenues from local travel between New York City and several of the more important stations increased as follows:

Month of June, 1942, versus June, 1941

Between New York City and:	Per Cent of Increase
Bridgeport	81
Hartford	75
New London	103
Providence	82
Boston	84

Through New York-Boston railroad passengers during June, as well as being the highest June on record, also exceeded the number carried for any month in the entire history of the railroad. Compared with June a year ago, through New York-Boston railroad passengers were up 89.0 per cent.

Today daily records are kept showing the number of passengers by individual trains into and out of the more important terminals to assist the management to "keep on top" of the ever-increasing passenger travel.

Other Roads' Figures Closely Examined

The passenger traffic analysts study closely the passenger performance of other roads, so that constant comparisons between them and the New Haven may be made. Also, the department has endeavored to relate its passenger traffic to an "outside" index which shows a close correlation with New Haven passenger volume, viz., that of department store sales in the New York and Boston Federal Reserve Districts. A comparison of percentage relatives of such sales with New Haven passenger volume is given in an accompanying table and chart. By a constant watch on this comparison, the management is able to see whether it is gaining or losing ground, in its hold on the potential traffic in its territory. The reasoning back of this particular comparison is that passenger travel is a retail commodity and is in competition for the consumer's dollar the same as any other form of merchandise.

* * *

Quicker Meals for C. N. R. Passengers

To speed service to passengers, the Canadian National is installing eight "coffee shops on wheels." In these cars the kitchen is located in the middle, with service tables for twenty diners at each end. The cars are so designed that speedier service can be given to the increased number of passengers now using train facilities. The interiors of these cars were converted at the London, Ont., shops.

Railroads-in-War News

Railroads Set New Oil Record

Haul 830,820 barrels daily to east coast during week ending August 15

Rail shipments of oil to the eastern seaboard reached a new record rate of 830,820 barrels daily during the week ended August 15, according to an announcement by Petroleum Coordinator for War Harold L. Ickes. This figure tops the previous record of 809,430 barrels a day, attained during the week ended August 8.

At the same time the Office of Defense Transportation pointed out that the flow of oil by rail from the southwestern fields to the eastern seaboard in solid train lots of from 50 to 60 cars per train increased during the past week to include more than 75 per cent of the 4,000 tank cars loaded daily for eastern consumption. A week ago ODT officials estimated that two-thirds of the eastbound oil had been gathered into the train-lot movement. This increase was considered an important factor by the ODT in the record-breaking movement of oil for the week ended August 15.

Reports from the ODT field representatives in District No. 3 (the oil field area) say that during the week ended August 22, eight additional trains daily were launched from the producing fields containing the shipments of small producers consolidated at convenient terminals into train lots.

Meanwhile, the Office of Petroleum Coordinator announced the following actions designed to increase the flow of oil to the east coast area:

1. An order banning the hauling of automotive gasoline by rail in 20 states of the middle west and southwest. This action will release an estimated 5,000 to 7,000 additional tank cars for oil movement to the east coast. However, the OPC later gave assurance that the ban would not be allowed to interfere with necessary rail distribution of gasoline for essential agricultural and industrial use in the midwestern and southwestern areas.

2. An announcement by Mr. Ickes of his approval of plans for the extension of the Plantation Pipe Line from Greensboro, N. C., to near Richmond, Va. This move was designed to make 30,000 barrels of oil products available daily at Richmond for movement to important eastern consuming centers.

3. The approval of an interim plan for the emergency movement of 15,000 barrels of essential oil products to the Atlantic seaboard. The plan authorizes the temporary use of Great Lakes tanker or barge transportation between Toledo, Ohio, and Cleveland in order to accomplish the earliest possible utilization of pipe line facilities now being rearranged, expanded and extended in Indiana, Ohio, and Pennsylvania. The plan would remain in effect pending completion of a new 100-mile pipe line across Ohio, which will eliminate need for the lake movement to Cleveland.

Hitler Gives Locomotives Top Priority Rating

An emergency program of locomotive building has been undertaken in Germany, with high priorities ordered by the Reich Minister of Economic Affairs, the London Times reports in its August Trade & Engineering Supplement. To facilitate this activity, the Minister of Munitions has called upon manufacturers throughout the territory under German control to surrender all kinds of iron suitable for scrap, including industrial machinery and spare parts not immediately needed directly for other armament purposes, and directions have been given that labor must not be diverted from this task.

This move to build up railroad capacity is a part of a general plan for immediate repair of vital war industries, including transportation, and is reported to result from the failure of the under-maintained, over-loaded German railroads to meet wartime traffic requirements.

Water Transport Gets Assistant Directorship in ODT

Ernst Holzborn, who has been director of the Office of Defense Transportation's Division of Coastwise and Intercoastal Transport, has been appointed assistant director of ODT in charge of all waterway transportation. The announcement described the appointment as "a move designed to bring about better coordination and a more efficient use of domestic waterway facilities."

Under Mr. Holzborn's direction will be the Inland Waterways, Great Lakes Carriers, and Coastwise and Intercoastal Transport divisions. He has been succeeded as director of the latter by Charles F. Kellers, who was its associate director, while Assistant Director Glenn E. Taylor of the Inland Waterways Division has been named deputy assistant director of ODT to aid Mr. Holzborn. A. T. Wood and Edward Clemens continue as directors of the Great Lakes Carriers and Inland Waterways divisions, respectively.

Big Coal Movement Into New England

Gray hails railroads' feat of handling 3 1-3 million ton increase over last year

The railroads transported three and a third million more tons of coal into New England in the first 33 weeks of this year than they did in the corresponding period of 1941, Howard A. Gray, acting director of the Office of Solid Fuels Coordinator for War, announced during a round-table radio discussion in Washington, D. C., August 27. Not only have the railroads been able to meet all of New England's coal requirements, Mr. Gray revealed, but "some of the railroads have been asked for more coal to haul."

The reason New England's coal supply has presented a particularly difficult transportation problem, Mr. Gray explained, is that before the war the greater part of the coal consumed in that area was transported from the mines in West Virginia, Virginia and Eastern Kentucky to eastern seaports and thence up the coast by ocean vessel. Now, he said, more than half of all this coal is shipped entirely by rail.

Speaking of the railroads' performance in moving coal since the war, Mr. Gray commented that "the railroads have done an outstandingly good job" in hauling 1,600,000 tons of coal a day. Moreover, he added, they have done the job "in spite of handicaps."

"The wartime coal transportation burden thrust upon the railroads has been tremendous," Mr. Gray continued. "The war has greatly reduced the amount of coal that can be moved by ocean vessels, and the railroads have been called upon to make up the deficit. On top of this, the requirements for coal have increased substantially due to greater war industry use, conversion from oil to coal and other reasons. The railroads have had to assume this new burden at the same time they were confronted with the rapidly increasing war load; with heavy demands for the transportation of oil by rail to the Eastern states, and with the shift to the rails of other traffic that under ordinary conditions moves by other forms of transportation."

Mr. Gray said that the "buy-coal-now" campaign has caused a very large quantity of coal to be stored in the "off-season" months. "However," he warned, "the amount in storage is not sufficient, and considerably more must be moved into storage before the opening of the heating season if the nation is to have adequate wartime fuel protection."

(Continued on page 350)

ODT Was Given Plenty of Power

Seems to extend to "every use" to which transportation facilities are put

Powers of the Office of Defense Transportation extend "back into practically every use to which transportation facilities are normally put," according to the interpretation placed by ODT General Counsel Jack Garrett Scott on an opinion obtained from the Attorney General at the time ODT General Order No. 1 was issued. Mr. Scott discussed the matter in an August 25 address at Detroit, Mich., before the American Bar Association's Section of Public Utility Law.

He recalled that when ODT was considering the issuance of General Order No. 1, which requires minimum l. c. l. car loads, it sought the Attorney General's opinion as to whether it had power to issue the order. Answering the question in the affirmative, the Attorney General relied upon the provisions of section 6(8) of the Interstate Commerce Act which provides that in time of war, upon demand of the President, carriers shall give precedence and preference over all other traffic to the transportation of troops and materials of war. The President has delegated this power to ODT. From the Attorney General's opinion Mr. Scott quoted the following:

> The authority which it is proposed to exercise (that conferred by Section 6 (8) of the Interstate Commerce Act) is one to demand that preference and precedence be given, over all other traffic, for the transportation of troops and matrial of war, and that the carriers adopt means which are within their control to facilitate and expedite the military traffic. The facilities of transportation are necessarily limited. The magnitude of the war demand for use of those facilities cannot be predicted in terms of a mathematical formula. Preference orders alone may actually congest traffic instead of facilitating it and better results may be obtained by requiring the maximum use of available facilities. The transportation demands of the war effort are of dominating importance. Measures reasonably calculated to assure the necessary preference and precedence are, in my opinion, clearly within the scope of powers now vested in the Office of Defense Transportation.

"This opinion," Mr. Scott went on, "is of far-reaching consequence to us, for if the power to require preferences and priorities carries with it the power to make equipment available for the establishment and the performance of such preferences and priorities, it extends back into practically every use to which transportation facilities are normally put."

Previously the ODT general counsel had discussed briefly the legal phases of that agency's work. "If I visualize it correctly," he said, "the office of a lawyer in such an agency in time of war is not to content himself with looking back through the dead words of the past, but to consider the necessities of the present and future and to devise ways, if they can be devised, whereby the things which have to be done can be done with legality and reasonableness." He also revealed that ODT is working on a plan to reduce the individual mileage of each motor vehicle, including private automobiles, "to that which is essential to carry on our economy and the war effort." He anticipated that if such a plan were placed in effect, it would present "a tremendous administrative problem"; but "something of the sort must be done."

ODT Appointments

Theo Davis and Charles B. Roeder have been appointed assistant directors, rail-truck coordination, of the Office of Defense Transportation's Division of Railway Transport. Mr. Davis, whose headquarters will be at Cincinnati, Ohio, has been traffic manager of the Middle Fork and manager of the Lumber Traffic Association. Mr. Roeder, whose headquarters will be at Philadelphia, Pa., has been secretary of the Philadelphia Bourse, "in charge of promotional activities in port development and river and harbor improvements."

ODT Secures Rate Reduction on Scrap for Detinning Purposes

Western and Southwestern railroads, cooperating with Central Freight Association lines, at the request of the Office of Defense Transportation, have reduced rates on scrap for detinning purposes only from points in the West and Southwest to Pittsburgh, Pa. As a result, "old tin cans are destined for a more vital role in reclamation of critically needed tin," said an ODT press release.

The ODT proposal for the rate reduction was filed at the request of the Salvage and Surplus Property Branch of the Office of the Quartermaster General, War Department, and the War Production Board.

ODT Bus Orders

Special Order No. B-15 has been issued by the Office of Defense Transportation to direct Independent Stages, Inc., to suspend service between Seattle, Wash., and Portland, Ore., eliminating duplication of service also provided by North Coast Transportation Company, parent corporation of Independent. The order is expected to result in a saving of approximately 11,400 bus miles a month.

Also, ODT has postponed from August 17 until September 1 the effective date of Special Order B-10 which calls for coordination of Chicago-Milwaukee, Wis., services operated by Interstate Transit Lines and Northland Greyhound Lines.

Sightseeing Ban Extended

The Office of Defense Transportation's General Order No. 10, which prohibits "sightseeing by bus," has been amended to extend the ban to "any rubber-tired vehicle propelled or drawn by mechanical power, for hire or under hire." Thus, as the ODT press release put it, the amendment "took some more of the rubber out of rubber-necking."

The original order defined a bus as any rubber-tired vehicle having a capacity of 10 or more passengers. Under the amendment, the ban extends to sightseeing by taxicab, drive-yourself automobiles, etc. Also, it extends to trucks used to transport passengers, according to Interpretation No. 10-1 issued a few days after the amendment.

Material Controls Revised by WPB

New plan "another long step" away from priorities toward allocations

A new over-all program for controlling the flow of materials during the fourth quarter of this year was announced this week by Amory Houghton, director general of operations of the War Production Board. The basis of the plan is a new method of handling Production Requirements Plan applications "to keep the supply of materials in balance with requirements of the most essential war industries."

In other words, as the announcement also put it, WPB is "taking another long step away from simple priorities toward allocation of materials in accordance with the needs of the war program." The step was made possible because "for the first time, a reasonably complete supply and demand picture of American industry is available."

The Production Requirements Plan has been transformed into a method of obtaining a report on about 95 per cent of war industry's basic materials requirements. Under the new set-up the requirements figures submitted by each industry will finally reach WPB's requirements committee which will determine the general pattern of materials distribution, both in terms of end products and in accordance with the companies assigned to the various WPB branches, after setting aside a "kitty" for contingencies, readjustments, and for the use of smaller companies not under PRP. These determinations of the requirements committee will then go to the various industry branches, which will process the individual applications in accordance with the amounts of materials which may be authorized for each product.

"For the purpose of processing these applications," the announcement went on, "various units of the Army and Navy Munitions Board staff will be treated exactly like industry branches, and they will process all applications from companies whose production is now 100 per cent military. The authorized quantities will be limited by the determinations of the requirements committee exactly like those of the industry branches."

Railroad men concerned with the materials-supply problem are hopeful that the new set-up will be an improvement over present procedures. This hope should be realized if it becomes true, as WPB anticipates, that "virtually all companies which are authorized to receive materials under PRP for the fourth quarter should be assured of delivery without unreasonable delay, since the total amount of materials will not exceed the available supply." Putting it another way, Mr. Houghton said that the new system "will tend to counteract any inflation of preference ratings by restricting the amounts of materials authorized for the various essential military and non-military purposes, regard-

less of the ratings which have been assigned."

As is well known among railroad men, the carriers have been encountering difficulty in their undertaking to make their relatively high preference ratings effective in the way of actually assuring delivery of the materials. Thus far this situation has been mitigated by the process of "living off the fat" the railroads had in the way of inventories. But the "fat" is now largely consumed, and new materials must be forthcoming. And while there is no disposition to pass judgment on the new set-up while it is still untried, there has been a feeling in railroad circles that any effective allocation system must contemplate the elimination of the "red tape" and "run-around" characteristics of those which have gone before. In other words there is the feeling that when a policy decision is made allocating a given amount of materials, the system should not tolerate the nullification of that policy.

Surplus Car Material May Be Transferred to Railroads

Car builders and suppliers can transfer surplus freight car material to railroads, under an interpretation of Supplementary Limitation Order L-97-a-1, issued August 26 by the director general for operations of the War Production Board.

The limitation order permits interchange of surplus material between producers under certain conditions, provided such sales have WPB approval. The interpretation, No. 1, makes it clear that railroads which produce or repair railroad equipment are deemed to be engaged in the same business as car producers, and thus are entitled to purchase surplus freight car material from car builders and suppliers.

Pullman Handles Record Troop Movement in July

A new all-time high record for troop movements was established by the Pullman Company in July when 708,000 men in uniform were transported in sleeping cars. Troops traveling on furlough and men on the way to induction centers are not included in this figure. July's volume of troop travel was 24 per cent greater than June's and marked the seventh consecutive month in which the volume of troop traffic handled by Pullman broke all previous records. During the first seven months of 1942 more than 3,600,000 soldiers, sailors and marines were carried to their destinations in Pullmans.

To handle the steadily rising demands for military transport, the company's car service department is on 24-hour duty, seven days a week, for the first time in its history. In this department, a staff charts the hourly location of each of the 5,000 sleeping cars in active service. On some days, more than half of these sleepers are transporting troops.

Pullman cars are now traveling an average of 554 miles a day, compared with 454 miles in 1941 and 394 miles in 1917. "Car usage" has been speeded up 40 per cent with the result that Pullman cars are operated with a quicker turn around than in peacetime. To supply an average month's movement of troops, approximately 7,000,000 drinking cups, 5,000,000 cloth and paper towels, 4,000,000 sheets and pillow slips, 233,000 bars of soap and 3,100 gallons of liquid soap are among the supplies needed.

Big Coal Movement Into New England

(*Continued from page 348*)

In discussing the oil shortage in the East, R. W. Brown, president of the Lehigh Valley, declared that if it were not for "the excellent job that the railroads are doing" in bringing more than 800,000 barrels of petroleum a day into this area, the oil situation along the Atlantic Seaboard "would be far more critical than it is." Mr. Brown pointed out that practically all of the approximately 150,000 tank cars in service belong to the oil companies and the private tank car companies, and that "about the only connection that the railroads have with the movement of tank cars is to furnish the tracks and the power to pull them."

"And I want to say right here," he stated, "that the railroads stand ready to transport every carload of oil they may be asked to move."

Warren C. Kendall, chairman of the Car Service Division of the Association of American Railroads, shared Mr. Brown's optimism by declaring that "there is no doubt" that the railroads will be able to increase the amount of oil they are now delivering to the East.

According to Mr. Kendall, "the recent assignment of more tank cars to this service, the more efficient use of tank cars and the speeding up of oil shipments and of the return of empty cars are bound to increase the quantity of petroleum moving into this territory."

Describing what is being done to increase the flow of oil to the Atlantic Seaboard, Mr. Kendall said: "Tank cars are moving in large solid blocks and in special trains. Each day, about sixty of these trains with an average of from 45 to 50 cars each leave the oil producing fields bound for the Atlantic Seaboard. Each day, too, a similar number of trains made up of empty cars start from the East for another load. The trip in both directions is made on fast schedules, which have substantially reduced the normal running time."

Publishers Advised to Stock Paper Before Transport Peak

Publishers "who have not taken advantage of the opportunity to acquire large stocks of newsprint during the off-peak transportation season" were warned last week by E. W. Palmer, deputy chief of the War Production Board's Printing and Publishing Branch, that they may encounter difficulty in later months "when the railroads will be faced with a heavy seasonal burden." Mr. Palmer reminded the publishers that the WPB order relaxing inventory restrictions on newsprint, paper and paper products under Priorities Regulation No. 1 will expire on September 30.

"A shortage of railroad facilities would seriously disrupt the delivery of the nearly 6,000 cars of newsprint expected to be transported monthly during the last quarter of the year," he said. "Each newspaper publisher should analyze his own newsprint requirements, the method of transportation used in delivering his newsprint, and the facilities for storing his newsprint, in order to work out means of filling requirements with the least possible strain on transportation."

Railroaders Can Still Get Their Watches on Tick

Railroads have obtained from the Board of Governors of the Federal Reserve System a modification of the wartime consumer-credit regulations which will permit employees to continue purchasing standard watches through railroad watch departments and paying for them through deductions from wages. Without this modification, the regulations would require a 33 per cent down payment for a watch purchased on the installment plan.

The modification applies only with respect to railroad time service employees who are eligible to purchase the watches under General Limitation Order L-175 issued August 7 by the War Production Board, as noted in the *Railway Age* of August 15, page 279.

Transportation Advisory Committees Created by ODT

Formation of transportation advisory committees in Boston, Mass., Chicago, Memphis, Tenn., and Pittsburgh, Pa., to act in an advisory capacity to field staffs of the divisions of Railway Transport and Motor Transport was announced last week by the Office of Defense Transportation. Additional committees will be established in other cities from time to time, the announcement said; they will "collaborate on rail-truck coordination studies and railroad matters in general," their membership representing "a cross-section of the shippers in their respective communities."

The committees now appointed are as follows:

Boston, Mass.—W. H. Day, manager, Transportation Bureau, Boston Chamber of Commerce; C. B. Baldwin, traffic manager, United States Machinery Corporation; R. M. Colbert, traffic manager, Carter's Ink Company; N. F. Bartlett, traffic manager, Hollingsworth & Vose; H. N. Waybright, traffic manager, New England Coal & Coke Company.

Chicago—Charles Leahy, vice-president, Quaker Oats Company; Alexander Mayfield, general traffic manager, Swift & Company; Gordon Reiley, general traffic manager, United States Gypsum Company; Murray N. Billings, traffic manager, Carnegie-Illinois Steel Corporation; A. H. Schweitert, traffic director, Chicago Association of Commerce.

Memphis, Tenn.—Alonzo Bennett, vice-president and traffic manager, Federal Compress & Warehouse Company; J. P. McGinnis, traffic commissioner, Memphis Merchants Exchange; Phil Pidgeon, president, Pidgeon-Thomas Iron Company; V. Alexander, traffic manager and assistant secretary, Memphis Cotton Exchange; R. G. Bruce, president E. L. Bruce Company.

Pittsburgh, Pa.—A. J. Seven, general traffic manager, Pittsburgh Plate Glass Company; W. F. Schulten, general traffic manager, Pittsburgh Coal Company; R. E. Jones, general traffic manager, H. J. Heinz Company; C. W. Trust, general traffic manager, United States Steel Corporation Subsidiaries; B. S. Thomas, general traffic manager, American Radiator & Standard Sanitary Manufacturing Company.

GENERAL NEWS

Says Nickel Plate Is Short-Changed

Stockholder charges that road does not get proper share of divisions

Thomas L. Little, a stockholder of the New York, Chicago & St. Louis on behalf of himself and all other stockholders, has filed a complaint with the Interstate Commerce Commission charging that the Baltimore & Ohio; the Cleveland, Cincinnati, Chicago & St. Louis; and the New York Central have withheld from the New York, Chicago & St. Louis, and that carrier has overpaid these companies, a total of more than $300,000 in the period from 1931 to the present on freight shipments consigned to or originating from Euclid, Ohio.

At the same time Mr. Little has filed another complaint against the Nickel Plate, the National Carloading Corporation, and the Kelleher Motor Freight Lines, Inc., of St. Louis, Mo., alleging that the National Carloading Corporation, the Kelleher Lines, and certain other motor trucking companies have underpaid the Nickel Plate in connection with freight shipped upon a carload and l. c. l. basis in the period from 1936 to the present.

In both cases the complainant alleges that the Nickel Plate officers know of the complained-of acts and that he is unable to ascertain the exact amount of money owing to the road because its officers have refused to permit him to inspect the necessary records. The complaint also charges that the published division agreements between the carriers are not being observed. It alleges that during the period from 1931 to date "extensive shipments of freight have been consigned to or from Euclid, Ohio, or to points on or via said other railroads; but said other railroads in making distribution of the division of joint freight rates to the Nickel Plate upon freight originating at Euclid, Ohio, calculated the divisions as though the freight had originated at Cleveland, Ohio, and erroneously failed to allocate percentage divisions upon the percentage bases applicable to the freight originating in Euclid, Ohio —all in violation of the published division agreements."

The second complaint charges that from 1936 to date, in numerous instances, preferential rates were unlawfully granted on shipments of merchandise and other freight, transported in a series of two or more cars, tendered by shippers and accepted by carriers on one consolidated bill of lading as a unit shipment—said preferences "resulting from the Nickel Plate's failure to collect charges on the proper minimum carload weights as provided for in the Official Territory Classification and applicable freight tariffs."

Furthermore, continues the complaint, other preferences were granted by permitting certain commodities within the consolidated freight mixtures to move under actual weights and carload rates—whereas l. c. l. rates or carload rates at the prescribed minimum should have been applied, in compliance with the applicable tariff regulations. Mr. Little tells the commission that the National Carloading Corporation received preferential rates or rebates or made underpayments in the amount of $32,000; the Kelleher Motor Freight Lines, Inc., in the amount of $17,000; and other unnamed motor trucking companies in the amount of $50,000.

Officers of Trainmen's Union Charged With "Perpetuation"

A petition charging A. F. Whitney, president of the Brotherhood of Railroad Trainmen, and ten other officers of the brotherhood with seeking to postpone the union's 1943 convention to "perpetuate themselves in office," was filed in the common pleas court in Cleveland, Ohio, on August 25, by W. S. Ross of Pittsburgh "in behalf of all members of the B. R. T." The petition also charged that a recently announced referendum postponing the quadrennial meeting in Cleveland was unconstitutional. Mr. Ross asked the court to order the convention called in the usual manner.

Bus Operators to Meet

The annual meeting of the National Association of Motor Bus Operators will be held at the Drake Hotel, Chicago, September 16 to 18. The program will be devoted largely to the place of the industry in the war program, and will include an address by ODT Director Joseph B. Eastman.

New Flammable Chemical Data

The sixth revised edition of a table of common hazardous chemicals, prepared for the National Fire Protection Association in co-operation with the American Chemical Society, has recently been issued. It includes up-to-date information on shipping containers and storage safeguards, fire and life hazards, ignition temperatures, explosive ranges, and recommended fire extinguishing methods for individual flammable chemicals. The publication is available from the National Fire Protection Association, 60 Batterymarch Street, Boston, Mass.

Would Strike Down "Added Cost" Rates

Case involves first application of Edwards formula to l.c.l. charges

Reporting after further hearing in the I. & S. No. 4690 proceeding involving Boston & Maine and Maine Central l. c. l. all-commodity rates, which have been in effect since March 5, 1940, between points in Maine, Massachusetts, and New Hampshire, Examiner Morris H. Konigsberg has recommended that the Interstate Commerce Commission now find that the rates "are not reasonably compensatory and unreasonably low," and that it vacate the February 15, 1940, order wherein Division 2 found the schedules justified. The examiner makes this adverse recommendation despite the fact that the rates for practically all of the movements involved were shown to exceed out-of-pocket costs.

The further hearing, ordered in response to petitions from the New England Motor Rate Bureau, Inc., and other trucking interests, was the first proceeding in which cost formulae developed by Ford K. Edwards, principal economist in charge of the Transportation Cost Section of the commission's Bureau of Transport Economics and Statistics, were used as evidence of the compensatory character of l. c. l. rates.

The rate adjustment is that wherein the two roads reduced charges on practically all package freight rated first, second, third and fourth class to the column 45 level, i. e., 90 per cent of fourth class.

After the proceedings were reopened for the further hearing, the commission requested the railroads to prepare a study of the cost of handling the traffic in conformity with the Edwards formula. The formula provided for the computation of three levels of cost as follows: (1) Out-of-pocket expenses; (2) the total freight operating expenses, rents, and taxes; (3) the freight operating expenses, rents, taxes, and a return of 5¾ per cent on the freight portion of valuation as furnished by the commission's Bureau of Valuation. Results of the application of the formula were tabulated in the proposed report. As the examiner pointed out, that table showed that: "The present rates exceed the out-of-pocket costs except between Boston, Mass., Lynn and Salem on the one hand, and Newcastle, Me., and Rockland on the other. The rates, however, are in each instance considerably lower than the costs attributable to freight operating expenses, rents, and taxes, as well as those items

(*Continued on page 356*)

Railway Connection to Central America

High ocean insurance rates make all-rail route an economy

The advantages under wartime conditions of an all-rail route between the United States and Central America were described by H. E. Chenowith, commercial agent of the National Railways of Mexico, at a meeting of exporters in New York August 20. With war risk insurance rates of as much as $10 per $100 valuation in effect on shipments by steamer between New Orleans and Central American ports, the development of a more economical alternate route would be an important contribution to international trade even if no shortage of shipping existed, although the principal reason for the promotion of the rail route is, of course, the critical scarcity of ships. While freight rates on all-rail shipments from New York to Guatemala, including insurance against breakage and pilferage, are several times the pre-war charge for transportation by water, the current insurance costs are so high on steamer shipments that rail rates are now much cheaper, he explained.

Pointing out that the Mexican railways are handling a substantial volume of traffic in all-rail movements in that country which formerly moved to and from its ports by water, the speaker outlined the rates and operating restrictions that apply to rail shipments to Guatemala and El Salvador—served by connecting lines of the International Railways of Central America—and to rail-water shipments to countries further south to which no all-rail route has been developed.

At present there is, strictly speaking, no all-rail connection between Mexico and the adjoining Central American republic of Guatemala, but expected completion this fall of an international bridge crossing the Suchiate River will form a physical connection between the railways of the two countries, though trans-shipment of freight still will be necessary, as the Mexican line is standard gage while the International of Central America is a three foot gage line. Pending opening of the new bridge even a car-to-car transfer is impossible, and the present capacity of the route is restricted by the necessity of unloading all shipments from regular freight cars into motor trucks, then to barges, then to ox carts, and finally to the narrow gage freight cars. Nevertheless trial carload shipments have been handled successfully, and l. c. l. interchange goes on regularly.

Through shipments between the United States and Guatemala move via Laredo (or other Mexican border gateways along the United States border) and Mexico City, then by the Tehuantepec and Pan-American divisions of the Mexican system to the Suchiate terminal, where they are transferred to the Guatemala line. The development of this through route is further complicated by the fact that the section of the National of Mexico between Mexico City and Vera Cruz is a narrow gage line, so that through car movement over that route between Mexico City and Suchiate is impossible. The independent Mexican Railway Co., however, does operate a standard gage line from Mexico City to Vera Cruz, and this line connects at Cordoba with the standard gage National of Mexico route to the Guatemala frontier.

One Question on Which "Labor" Agrees with Us

"For more than 15 years steel interests have been trying to get Uncle Sam to build a 35-mile canal between the Beaver and Mahoning Rivers in Ohio, at the taxpayers' expense. Every time it bobbed up it was knocked down.

"Now the backers of the 'ditch' are trying to drum up new sentiment for the project on the claim that it could be used to carry oil.

"'That's just another alibi,' declared Julius G. Luhrsen, executive secretary of the Railway Labor Executives' Association, which has been opposing the project as a waste of money. 'The canal would take years to build, and, besides, it would use vast amounts of steel and concrete needed for more important war projects.'"

From the August 25 Issue of "Labor."

Club Meetings

The Metropolitan Traffic Association of New York will hold its annual outing September 19 at the Staten Island Lodge of Elks, Oakwood Heights, Staten Island, New York City.

The annual smoker of the Canadian Railway Club will be held at 8 p. m. on September 18 at the Windsor Hotel, Montreal.

Signal Section Abandons Convention

The Board of Direction of the Signal Section, A.A.R., has voted to cancel its annual meeting scheduled to be held in Chicago on October 13-14. Reports of committees have already been distributed to the members and it is expected that recommendations contained therein will be submitted to the members for acceptance by letter ballot in the customary manner.

S. P. Affiliate Gets Water Carrier Certificate

The Interstate Commerce Commission, Division 4, has found the Southern Pacific Steamship Lines entitled to a "grandfather-clause" certificate under Part III of the Interstate Commerce Act, authorizing continuance of operations as a common-carrier of commodities generally between New York and Galveston, Tex., and Houston, and between Baltimore, Md., and those Texas ports. Operations were discontinued on July 9, 1941, when the line's last vessel was delivered to the United States Maritime Commission; but the I. C. C. ruled that this interruption of service was "beyond the control of the applicant."

Sees Roads Holding Own After the War

Economist advocates public spending on railroads if continued for rivals

Little likelihood that circumstances will arise during the present war—similar to those which, in the last one, led the federal government to assume control of the railroads—is foreseen by Thor Hultgren, transportation economist, writing in the September issue of "Political Science Quarterly." The author reviews these circumstances in the last war period—primarily, failure to unload cars promptly, reluctance of private interests to make concessions which would have added to overall capacity, the carriers' financial difficulties at that time—and shows wherein present provision has been made against the revival of these conditions.

For the post-war period, Mr. Hultgren expects that the railroads will again lose much of the traffic they are now handling to their competitors. Furthermore, he believes these rivals will be in a more favorable position because the efficiency of their service will have been improved—and it will be still further aided, if there are large additional public expenditures on highways, waterways and air facilities as a measure of unemployment relief.

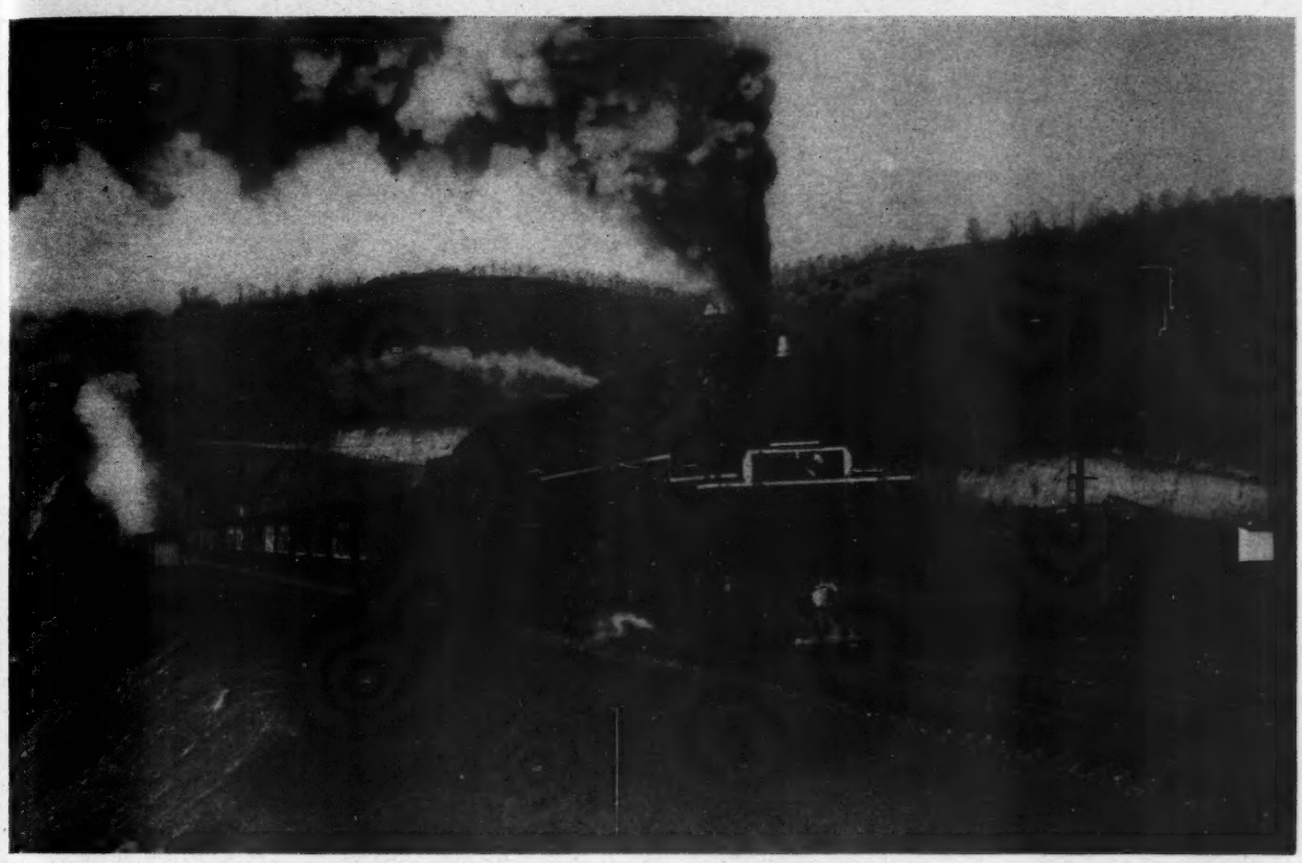
Despite this competitive handicap, however, if post-war national production can attain approximately the levels of 1941 and 1942—with relationship of rates, wages and material costs similar to those years—the railroads should do much better, anyhow, than they did in the 'Thirties.

If public money may be justifiably spent to increase employment and "purchasing power," there is just as much reason for such spending on the railroads as on other forms of transportation—in the author's opinion. Such money has not been forthcoming for the railroads—unless it looks as though they can pay it back—because the carriers are in private ownership. No such remuneration is expected on public expenditures for other forms of transportation—and the result has been "inefficient distribution of public spending as between railways and other forms of transport."

Mr. Hultgren observes that government ownership (but private operation) of the railroads has been suggested as a means of overcoming this difficulty, but he doubts whether such a drastic measure is necessary. Some relief could be given the railroads by very low taxation, interest and amortization on advances of public funds. Or some railroad improvements might be made, tax-free and entirely at public expense—such plant, however, not to be included in valuation. The method, the author concedes, has difficulties but it would afford a mitigation of further centralization of governmental power.

Mr. Hultgren's article succinctly reviews the principal economic factors in recent years of railroading—the decline of traffic (absolutely and relative to general busi-

News Department continued on next left-hand page



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To move long, heavy freights, and to keep 'em rolling on fast, wartime schedules, demands the extra power that Modern Super-Power Steam Locomotives give so efficiently and economically.

Those farsighted and courageous railroads that insisted on building up a fleet of modern, high-speed, high-powered locomotives are today most successfully playing their part in moving the greatest volume of freight ever known.

Lima-built Modern Super-Power Steam Locomotives are aiding many of these roads to set new all-time highs in gross ton-miles per train-hour.

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ness) during the 'Thirties, and the remarkable revival of the past couple of years. The late-1941 wage and rate cases are presented in similar brief—but understanding—outline. The freight rate increases, related to 1941 production, would increase costs to final consumers about ⅛ of one per cent. Therefore, the author does not detect any serious effect of railroad rates on the general price level. The I.C.C. rate decision, in his view, "was in reasonable accordance with long-established national railroad policy."

Service Order Directs Routing Around Strike-Bound Short Line

Because of strike conditions on the 51-mile Meridian & Bigbee River, which extends from Meridian, Miss., to Selma., Ala., the Interstate Commerce Commission on August 21 issued Service Order No. 83, directing railroads to disregard routings and forward traffic routed via that road by the most available open routes. The strike came on August 21 when 31 train and engine service employees walked out in a dispute over wages.

July Truck-Freight Volume 12 Per Cent Over 1941

The volume of freight transported by motor carriers in July increased 5.5 per cent over June and 12 per cent over July, 1941, according to American Trucking Associations.

Comparable reports were received from 196 motor carriers in 40 states. The reporting carriers transported an aggregate of 1,560,005 tons in July, as against 1,479,353 tons in June, and 1,392,602 tons in July, 1941. The A. T. A. index figure, based on the average 1938-1940 monthly tonnage of the reporting carriers, was 178.92.

A little more than 79 per cent of all tonnage transported in the month was reported by carriers of general freight. The volume in this category increased 3.9 per cent over June, and 6.8 per cent over July of last year. Transporters of petroleum products, accounting for nearly 16 per cent of the total tonnage reported, showed an increase of 10.5 per cent over June, and 58.8 per cent over July, 1941. Haulers of iron and steel products reported almost 1½ per cent of the total tonnage. The volume of these commodities showed an increase of 7.7 per cent over June, but represented a decrease of 7.7 per cent under July, 1941. A little more than 3½ per cent of the total tonnage reported was miscellaneous commodities, including tobacco, milk, textile products, bricks, building materials, cement and household goods. Tonnage in this class showed an increase of 18.6 per cent over June, and a slight increase of 0.3 per cent over July of last year.

New York Truck Drivers Ask Wage Increase

A joint wage scale committee of New York motor truck operators on August 18 rejected proposals submitted by local units of the International Brotherhood of Teamsters for a revised contract to cover pay scales and working conditions to be effective for the two-year period beginning September 1. Local and long distance "for hire" truck operators were represented on the committee, as well as private employers whose drivers are affiliated with the union, and some 10,000 truck drivers are said to be concerned.

Union proposals rejected by the operators included wage increases amounting to around $10 per week for most drivers; a five-day, 40-hour week, with double pay for Saturday work and 10 per cent extra for night shifts; and various "make work" provisions. In rejecting these proposals the operators' spokesman described New York as a "ghost port," because of wartime traffic diversions and business dislocations. He pointed out that the drivers represented already receive the highest wages paid in the United States for such work, and commented on the conflict between the union proposals and the national program to prevent inflation. A modified proposal was invited.

A. A. Miller Becomes Vice-President of A. R. E. A.

At a meeting of the Board of Direction at Chicago on August 18, A. A. Miller, chief engineer maintenance of way of the Missouri Pacific, was advanced from director to junior vice-president to fill the vacancy created by the death of W. F. Cummings, senior vice-president and chief engineer of the Boston & Maine, and the elevation automatically of F. R. Layng, chief engineer of the Bessemer & Lake Erie, from junior vice-president to senior vice-president.

I. C. Forms Labor-Management Committee for Production Drive

A labor-management committee, consisting of eight general chairmen of unions and eight officers of the railroad, has been organized by the Illinois Central to expedite war production by increasing the general effectiveness of the railroad in the war effort. The formation of the committee is in keeping with a plan recommended to industry by the War Production Board for the purpose of increasing plant efficiency through labor-management co-operation. The new Employees' War Production Drive General Suggestion Committee has for its nucleus the Employee's Suggestion System which has been in operation on this railroad for 3½ years. Among the duties of the new committee will be that

Members of the Illinois Central War Production Drive General Suggestion Committee in Session at Chicago

Left to right—O. J. Williford, Jr., assistant manager of foreign freight traffic; S. F. Lynch, superintendent of transportation; J. K. Hinks, general chairman, Order of Railway Conductors; John W. Freels, general attorney; D. T. Cruse, general chairman, International Brotherhood of Electrical Workers; F. E. Martin, general auditor; F. L. Noakes, general chairman, Brotherhood of Maintenance of Way Employees; H. C. Marmaduke, secretary of the committee and manager of the suggestion system, G. M. Crowson, assistant to the president; P. T. Mayes, general chairman, International Association of Machinists; W. G. Nusz, assistant engineer; T. S. Jackson, general chairman, Brotherhood of Railroad Trainmen; G. E. Lyman, assistant to vice-president, purchasing and stores department; John Fitzgibbons, assistant general chairman, Brotherhood of Railway & Steamship Clerks, Freight Handlers, Express and Station Employees; L. Robinson, superintendent of equipment; and G. E. Chance, general chairman, Order of Railroad Telegraphers.

of passing upon suggestions submitted by employees under the suggestion system. The chairman of the new committee is George Crowson, assistant to the president, and the secretary is Harvey C. Marmaduke, who continues as manager of the suggestion system.

At the first meeting of the new committee on August 20, a congratulatory telegram was received from Donald M. Nelson, chairman of the War Production Board, which read as follows: "Congratulations to the men of the Illinois Central on being the first representatives of a major railroad to embrace the war production drive by the establishment of a labor-management committee. You are giving your support to an effort that now embraces more than 3,000,000 war workers in some 1,300 corporations and plants in all forms of war production. War-time transportation such as your railroad can and must service is an absolute essential to victory."

Month's Delay on Power Reverse Gear Installations

The Interstate Commerce Commission has extended from September 1 until October 1 the time within which the rule requiring the installation of power reverse gears on locomotives must be complied with by the Western Pacific, Chicago & North Western, Southern Pacific, Northwestern Pacific, Chicago, Rock Island & Pacific, Terminal of St. Louis, Minneapolis, Northfield & Southern, and Minnesota Western. At the same time the commission has called a conference before Commissioner Patterson at the Morrison Hotel, Chicago, on September 10 for the purpose of discussing "the necessity, if any, for a further postponement."

Safety Campaign Figures Out for Six Months of '42

Results for the first six months of 1942 in the regular annual national safety contest of railroad employees, recently announced by the National Safety Council, show that the Union Pacific continues to lead the A group—that is, roads with over 50 million total man-hours last year—with a casualty rate of 2.89 per million man-hours. In this class the Chesapeake & Ohio now ranks second, with a rate of 3.43, and the Norfolk & Western is third, with 3.85.

In group B, made up of roads with 1941 total man-hours between 20 million and 50 million, the Michigan Central rate of 3.33 is lowest. The Wabash ranks next, with a rate of 4.24, and the Atlantic Coast Line is third, with 6.47. Among the top-ranking roads in group C, reporting total man-hours between 8 million and 20 million, the current standing is 1.55 for the D. M. & I. R.; 3.64 for the G., M. & O., and 4.40 for the C., St. P., M. & O. The next group, which in 1941 had between three and eight million man-hours, is led by the Bessemer & Lake Erie, with a rate of 5.59. Second and third positions are held by the Maine Central, with a rate of 6.33, and the Colorado & Southern, 6.93.

Roads in group E, in the one to three million man-hour class, are led by the Lake Superior & Ishpeming, which reported no casualties during the first six months and therefore won a 0.00 rating. The Ann Arbor was second with 2.91, and the Missouri-Illinois third with 3.40. Among roads with less than one million man-hours in 1941 the best rating was won by the Detroit & Mackinac, 3.09. In the class for the large switching and terminal roads the Conemaugh & Black Lick had a perfect record, 0.00 for the first six months, while the group of terminal roads reporting less than 1.5 million man-hours in 1941 was led by the St. Paul Union Depot, rated 2.02.

Freight Car Loading

Loading of revenue freight for the week ended August 22 totaled 869,404 cars, the Association of American Railroads reported on August 27. This was an increase of 559 cars, or one-tenth of one per cent, above the preceding week, a decrease of 30,384 cars, or 3.4 per cent, below the corresponding week in 1941, and an increase of 108,296 cars, or 14.2 per cent, above the same week in 1940.

As reported in last week's issue, loadings of revenue freight for the week ended August 15 totaled 868,845 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For Week Ended Saturday, August 15

District	1942	1941	1940
Eastern	161,324	180,142	150,048
Allegheny	184,959	194,197	158,874
Pocahontas	56,433	60,143	50,812
Southern	119,048	120,738	97,270
Northwestern	147,519	150,483	132,692
Central Western	127,568	128,014	107,611
Southwestern	71,994	56,620	45,743
Total Western Districts	347,081	335,117	286,046
Total All Roads	868,845	890,337	743,050
Commodities			
Grain and grain products	44,684	44,375	43,344
Live stock	13,479	10,930	12,833
Coal	167,045	167,743	135,211
Coke	13,700	13,451	10,609
Forest products	54,597	50,352	36,329
Ore	88,424	78,834	69,524
Merchandise l.c.l.	89,988	156,269	149,864
Miscellaneous	396,928	368,383	285,336
August 15	868,845	890,337	743,050
August 8	849,752	878,505	727,073
August 1	863,528	882,022	717,927
July 25	855,522	897,564	718,038
July 18	857,067	899,370	730,460
Cumulative Total, 33 Weeks	26,963,698	25,915,031	21,925,035

In Canada.—Carloadings for the week ended August 15 totaled 64,245, only 2 cars less than in 1941 and 565 cars more than in the previous week, according to the summary of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Aug. 15, 1942	64,245	35,259
Aug. 8, 1942	63,680	35,116
Aug. 1, 1942	66,246	35,443
Aug. 16, 1941	64,247	29,348
Cumulative Totals for Canada:		
Aug. 15, 1942	2,092,056	1,090,199
Aug. 16, 1941	1,927,770	963,872
Aug. 17, 1940	1,683,557	799,022

U. S. Jury Indicts McNear and Union Officials

George P. McNear, Jr., president of the Toledo, Peoria & Western, the railroad and three men connected with railroad brotherhoods were indicted on August 20 by a grand jury reporting in the district court at Peoria, Ill. Mr. McNear and the railroad company were charged with violating sections of the Railway Labor Act by checking off dues for a "company union" and by failing to post notices that would inform employees of the provisions of the act. Paul Brokaw, publicity agent for the Brotherhood of Locomotive Firemen & Enginemen; H. J. Dilley, a former fireman, and Delmar G. Newdigate, local chairman of the Brotherhood of Railroad Trainmen, were indicted on charges of violating the federal train-wrecking act and the national explosives act. They were charged with having in their possession explosives, including dynamite, detrimental to public safety, without having a license for such possession. They were also charged with attempting to wreck a T. P. & W. train near Eureka, Ill.

Susquehanna's Commuter Bus Service Is Intraterminal

Finding that North Bergen, N. J., is within the New York, Susquehanna & Western's terminal area at New York, the Interstate Commerce Commission, Division 5, has ruled that the road's commuter bus service between Susquehanna Transfer, North Bergen, and upper Manhattan is "an intraterminal transfer service incidental to rail service," and thus exempt from Motor Carrier Act provisions except those relating to qualifications and maximum hours of service of employees and safety of operation and equipment. The Commission, therefore, has dismissed the Susquehanna's application for a certificate covering the operation, although Commissioner Rogers, dissenting, expressed the view that the service should be held subject to the motor act.

The Susquehanna operates the bus service in order to accommodate commuters destined to points in the Times Square area of New York City. Morning commuter trains bound for Jersey City, N. J., began stopping at Susquehanna Transfer, North Bergen, on July 1, 1939, at which point passengers leave the train and take the buses operated by the railroad through the Lincoln Tunnel, under the Hudson river, to Times Square. In July, 1940, a new all-day service, utilizing two streamlined rail-motor cars was begun between Paterson, N. J., and Susquehanna Transfer. An additional charge of 10 cents per passenger each way is made. As the Commission pointed out, the plan "grew out of the fact that many of the applicant's southbound commuters destined to upper Manhattan were leaving its trains at North Bergen or points in the vicinity thereof and using the Lincoln Tunnel route directly to their places of employment."

In dismissing the application, the commission had to decide that the operation to be exempt from the motor act must be incidental to rail service; it must be performed within the terminal area of a particular carrier; and it must be either bona fide "transfer, collection, or delivery" service. After discussing each of the foregoing, it did so decide, conceding, however, that the conception of a carrier terminus, which "appears to be amply justified by the particular facts here involved," might be "indefensible in most instances."

"It is common knowledge," said the com-

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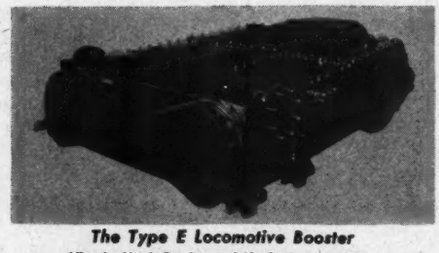

The Type E Locomotive Booster
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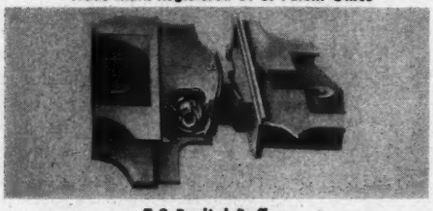
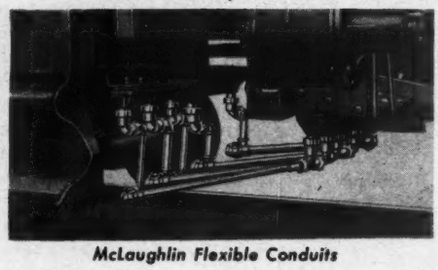


E-2 Radial Buffer

No. 8 "Butterfly" Fire Door



McLaughlin Flexible Conduits

The Type E Locomotive Booster*: In passenger service, the additional initial tractive effort of the Booster gives a smooth, easy start without equipment-destroying jerks and the much deplored annoyance to passengers. Besides increasing the comfort of the traveler, the Locomotive Booster provides rapid acceleration up to 35 miles per hour and increases dependability of operation.

F-2 Precision Reverse Gear: Franklin reverse gears facilitate accurate and instantaneous cut-off adjustment for any speed. This makes for economical use of steam and increased safety of operation. It cushions the shocks at high speeds thus avoiding excess stresses that cause high maintenance costs. Franklin gears hold and are low on maintenance.

E-2 Radial Buffer: By means of its spherical and cylindrical faces the E-2 Radial Buffer permits movement in any direction while maintaining a predetermined frictional resistance to dampen oscillation between engine and tender. The result is a smoother riding locomotive and lower maintenance.

No. 8 "Butterfly" Fire Door: Many thousands of these doors have proved their reliability in service and their low cost of maintenance. They are standard equipment on the majority of railroads.

McLaughlin Flexible Conduits: McLaughlin Flexible Conduits provide a sure and safe connection for conveying air and steam between engine and tender. Their ample sleeve bearings insure minimum friction with a consequent increase in service life.

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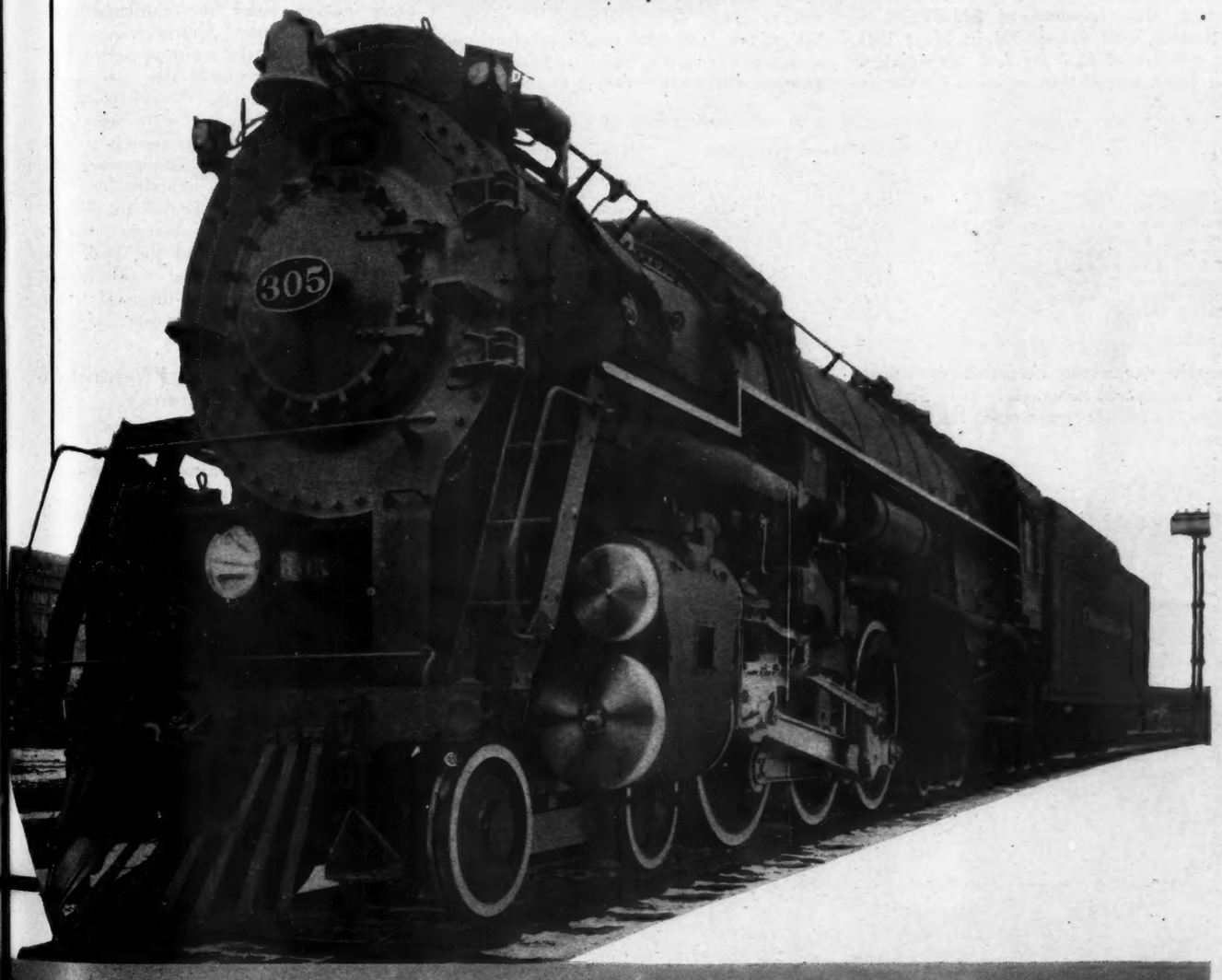
4-6-4 Type Passenger Locomotives

To haul such famous trains as The George Washington, The F.F.V., The Sportsman, and others, between Hinton, W. Va. and Toledo, Ohio, The Chesapeake & Ohio Railroad has placed in service eight of these new 4-6-4 high-speed locomotives.

All possible means have been taken to provide for passengers' safety and comfort and to maintain the fine service record of these trains — with a minimum of maintenance and expense.



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mission, "that the transportation situation at New York is unique. Both the metropolitan area as generally accepted and the commercial zone as defined in *New York Commercial Zone,* 1 M. C. C. 665 and 2 M. C. C. 191, include North Bergen. From residential areas in New Jersey, some of them more than 30 miles more remote than North Bergen, thousands of persons travel daily to Manhattan and return. They travel, not only to and from that part of upper Manhattan proposed to be reached by applicant's bus service, but also to and from lower Manhattan, Jersey City and other points, all of which, though separated to some extent by political boundaries and natural barriers, go to make up a single expansive metropolitan business center which as a unit, rather than any particular point thereon, is the real southern terminus of applicant's commuter service or the inbound destination of applicant's commuter patrons viewed collectively."

May Bus Revenues 85.7 Per Cent above 1941

Class I motor carriers of passengers reported May revenues of $22,077,669 as compared with $11,889,293 in May, 1941, an increase of 85.7 per cent, according to the latest compilation prepared by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics from 146 reports representing 151 bus operators.

Passengers carried were up 72.6 per cent, from 16,715,973 to 28,854,663.

Also, the Bureau has issued its compilation of railroad passenger traffic statistics for May, showing that buses continue to lead railroad coaches in the passengers-carried category. Railroads carried 26,620,132 revenue passengers in coaches during May, an increase of 43.7 per cent above May, 1941. Meanwhile, however, railroad passenger revenue from coach business remained above the bus revenue, being $36,985,516 for May, up 91.9 per cent from the same 1941 month.

The breakdown by regions of the bus revenue and traffic figures, which exclude data on charter or special party service, is given in the accompanying table.

	Passenger revenue		Passengers carried	
	May, 1942	May, 1941	May, 1942	May, 1941
New England Region	$1,049,070	$594,742	2,676,785	1,478,261
Middle Atlantic Region	2,374,652	1,478,356	4,467,596	2,790,085
Central Region	3,444,096	1,897,376	4,864,521	3,051,633
Southern Region	5,908,426	3,094,370	7,418,807	4,115,603
Northwestern Region	630,715	392,195	489,885	332,066
Mid Western Region	1,903,006	1,080,900	1,381,836	833,844
Southwestern Region	3,415,343	1,570,951	3,889,854	1,828,357
Rocky Mountain Region	224,665	111,979	138,613	78,210
Pacific Region	3,127,696	1,668,424	3,526,766	2,207,914

Philadelphia Business Hours To Be Staggered

A partial hour-staggering system will go into effect in Philadelphia, Pa., September 8 to afford some relief to the local transit services, on which peak-hour crowding has become increasingly serious. Downtown department stores and specialty shops will generally open and close from one-half to one hour later than heretofore, and insurance companies, banks, and other large business offices are expected to adjust their hours similarly in order to spread the rush-hour passenger movement over a longer period. Industries engaged in war production are not affected by the proposed program, though it is expected that their employees will encounter less delay and congestion in traveling to and from their jobs.

Subway, elevated and surface car and bus operations will be most affected by the new store and office hours, but travel on the suburban trains of the Reading and Pennsylvania also will be influenced to some extent, as both of these roads handle a large volume of commuter traffic in the Philadelphia territory. Most of this region is served by electrified main and branch lines on which multiple-unit trains are operated at frequent intervals, and these trains, like the local transit services, have experienced a great increase in patronage as a result of gasoline rationing and expanded industrial operations growing out of the war effort.

The capacity of some of the rush-hour trains has been taxed by the increased volume of travel, and it has been difficult to relieve the situation because additional multiple-unit equipment cannot be obtained. While both railroads have regular coaches and steam locomotives available, the operating characteristics of the specially designed multiple-unit electric trains differ so from those of the steam-propelled local trains that it is reported that use of this additional equipment in the electrified territory would require extensive rearrangements of schedules and introduce new problems possibly as serious as the congestion that so far has been experienced. City officials are reported to be hopeful that the staggered hours plan to become effective in September will spread the peak load sufficiently to relieve the most serious crowded conditions on all the local transit routes, including the railroads' suburban operations.

* * *

F.E.C. Employees Save Tires and Gas
Seven who ride to and from work at Miller Shops, St. Augustine, in one car.

Roadmasters Adapt Program to War Problems

The Roadmasters and Maintenance of Way Association will give primary consideration to the problems that are arising in the maintenance of roadway and track as a part of the railways' war effort in its 57th annual meeting at the Hotel Sherman, Chicago, on September 16-18. Special attention will be given to means for overcoming the wear and tear of the present record traffic in these days of increasing shortage of labor and materials. Speakers will include officers of the U. S. Army, the War Production Board, the Office of Defense Transportation and the Association of American Railroads, in addition to executives of individual railroads. The program is as follows:

TUESDAY, SEPTEMBER 15

Morning Session

Convention called to order.

Invocation.

Address on "Our Job Today," by C. E. Johnston, chairman, Western Association of Railway Executives, and associate director, Western Region, Office of Defense Transportation, Chicago.

Greetings from the American Railway Engineering Association, by H. R. Clarke (Chief engineer maintenance of way, C. B. & Q.) president.

Greetings from the American Railway Bridge and Building Association, R. E. Dove (assistant engineer, C. M. St. P. & P.), president.

Greetings from the Track Supply Association, Ross Blackburn (The Bude Company), president.

Address by President A. B. Hillman (engineer maintenance of way, C. & W. I.-Belt Ry. of Chicago).

Report of Committee on the Maintenance of

News Department continued on next left-hand page

have proved the efficiency and economy of

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SECURITY CIRCULATOR DIVISION

Roadway Equipment; Ray Marshall, chairman (district roadmaster, G. N.), Superior, Wis.

Afternoon Session

Report of Committee on Recent Developments in Tamping Practices; A. B. Chaney, chairman (district engineer, Mo. Pac.), Little Rock, Ark.

Address on The Use of Cars and Locomotives by Maintenance of Way Forces in These Days of Maximum Traffic Demands, by W. C. Kendall, chairman, Car Service Division, Association of American Railroads.

Tuesday Evening

Address on The Work of the Military Railway Service, by Brig. Gen. Carl R. Gray, Jr., General Manager, Military Railway Service, St. Paul, Minn.

WEDNESDAY, SEPTEMBER 16

Morning Session

Report of Committee on The Control of Injuries Under Today's Changing Conditions; S. J. Hale, chairman (assistant division superintendent, N. & W., Roanoke, Va.).

Address on Our Track Labor Problem, by Otto S. Beyer, director, Division of Transport Personnel, Office of Defense Transportation.

Report of Committee on Extending the Life of Rail and Fastenings; J. B. Martin, chairman (general inspector of track, N. Y. C. Lines West of Buffalo), Cleveland, Ohio.

Afternoon Session

Address on The Outlook for Track Materials, by W. W. Kelly, director, Section of Materials and Equipment, Office of Defense Transportation, Washington, D. C.

Address on Track Scrap—Its Importance in Our National Program, by B. C. Bertram, Director of Railway Salvage, War Production Board, Washington, D. C.

Address on What One Railroad Found, by C. M. Chumley, engineer maintenance of way, I. C., Chicago.

Wednesday Evening

Annual Dinner given by Track Supply Association.

THURSDAY, SEPTEMBER 17

Morning Session

Report of Committee on Highway Crossing Maintenance and Construction; F. E. Schaumburg, chairman (roadmaster, C. & N. W.), West Chicago, Ill.

Address on Our Responsibilities as Track Men in a Time of All-Out War, by F. R. Layng, chief engineer, B. & L. E., Greenville, Pa., and first vice-president, American Railway Engineering Association.

Report of Committee on the Use of Track Grinders; F. J. Herlehy, chairman (roadmaster, C. M. St. P. & P.), Milwaukee, Wis.

Afternoon Session

Summing Up—A review of the constructive ideas developed during the convention, by Elmer T. Howson, Western Editor, *Railway Age*, Chicago.

Business Session.

Coincident with the meeting, the Track Supply Association will present an exhibit of materials and equipment used in the maintenance of roadway and tracks in which emphasis will be placed on the desire of exhibitors to be of service to maintenance officers in the solution of their wartime problems through the most efficient use of track materials, tools and work equipment. A total of 43 companies have already arranged for participation in this exhibit.

Alco Gets Services' Award

In an impressive ceremony the Army-Navy Production Award for high achievement in the production of war equipment was presented to the Schenectady, N. Y., plant of the American Locomotive Company and its employees on August 26. The ceremony was witnessed by a large group of invited guests and by the employees of the plant.

The presentation of the Army-Navy award flag was made by Major General Charles T. Harris, commanding officer of the Aberdeen Proving Ground, Aberdeen, Md., and the presentation of the pins, which all employees of the plant are privileged to wear, by Capt. J. S. Evans, naval ordnance inspector at Schenectady.

In accepting the award for the company and its employees, Duncan W. Fraser, president of the American Locomotive Company, promised a continuance of the efforts to increase the plant output. In this Mr. Fraser was joined by representatives of the C. I. O. and A. F. L. shop organizations. The Schenectady plant of the American Locomotive Company first received the Navy E award on October 24, 1941, which was renewed on May 23, 1942.

Would Strike Down "Added Cost" Rates

(*Continued from page 351*)

with the additional item of a return on the freight portion of valuation."

As Mr. Konigsberg views such situations, the out-of-pocket cost "cannot be used as a decisive factor in determining the reasonableness of the rates under consideration." For that proposition he finds support in the commission's report in *Middle Atlantic States M. C. Conf., Inc. v. C. R. Co. of N. J.*, 232 I. C. C. 381, 391. Then he has this to say: "Insofar as the study covers costs other than out-of-pocket costs, it is doubtful whether it should be used as a decisive factor because the period during which the study was developed is prior to the date on which the wages of railroad employees were generally increased. The cost figures were not adjusted to reflect such additional expenses. Furthermore, the rates even with the increases authorized by Ex Parte 148 are for the most part less than the freight operating expenses, rents, and taxes, in which are not included the increased wages of employees."

Another factor affecting "the efficacy of the costs as portrayed by the study," the examiner went on, is the loading of cars. In that connection he pointed out that there was no evidence in the record as to the extent to which increased loading required by General Order No. 1 of the Office of Defense Transportation will reduce costs. Meanwhile, the examiner had looked over comparative traffic and revenue figures, which he interpreted as indicating that "little additional revenue" was being derived as a result of the additional tonnage handled under the reduced rates. This he found "strongly indicative of the fact that the rates which were found justified in the prior report are too low." Moreover, he pointed out that rates of competing truck lines are generally held by minimum-rate orders, and thus where the rail rates are lower than the truck rates, the protesting truck lines are unable to reduce their charges "in an effort to regain the traffic formerly transported by them."

Court Hears Counsel on P. R. R. Liability to Pennroad

Legal arguments in the suit of Pennroad stockholders against the Pennsylvania were heard last week by Judge George A. Welsh in the Federal District Court in Philadelphia. The three-day hearing was devoted mainly to discussion by counsel of the report of a committee of investment specialists appointed by the court to determine the extent to which prices paid by Pennroad in certain railroad security transactions in the period between 1929 and 1931 in their opinion exceeded fair prices. The court had previously ruled that the Pennsylvania is liable to Pennroad for the amount by which the prices paid exceeded fair prices, so that the report of the committee, if accepted by the court, would in effect determine the extent of the liability. The findings of the committee were outlined in *Railway Age* of July 4, page 35.

The committee proposed that the Pennsylvania should be held directly liable in the amount of about $10,500,000, and in addition that the railroad should take over at its cost to Pennroad stock of the Canton Company, a Baltimore terminal property. Counsel for the railroad argued that

* * *

Scrap Salvage—All in the Day's Work on the Railroads

This central scrap depot of the Lackawanna, at Keyser Valley shops, Scranton, Pa., was built in 1926. It handles 25,000 tons of scrap yearly. About one-third of this tonnage is reconditioned for further railroad service, while the rest goes into the nation's scrap pile.

News Department continued on next left-hand page

They have BOILERS and SUPERHEATERS that *Produce!*

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CHESAPEAKE and OHIO Lines
Original Predecessor Company Founded by George Washington in 1785

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this recommendation represented no more than a difference in opinion as to the value of the securities involved—a difference between the Pennroad's officers and directors on one hand, acting on their best judgment under the conditions existing when the transactions occurred, and the committee of specialists on the other hand, reviewing the circumstances some 10 or 12 years later—and that as fraud or negligence had not entered into the case no legal liability existed.

Counsel for Pennroad also expressed dissatisfaction with the solution proposed by the committee, but on the grounds that the amount for which the railroad was found liable was entirely too low. The original suit, filed about three years ago, sought to recover for the benefit of Pennroad stockholders about $95,000,000. Pennroad counsel in the hearings last week, however, proposed that the court find the railroad liable to the extent of about $47,000,000—a figure still more than $19,000,000 in excess of the sum of the liabilities suggested by the committee (including the full purchase price of the Canton Company) and that of nearly $4,000,000, attributed to financing the National Freight Company, for which the court previously had held the Pennsylvania liable.

The court took the motions and arguments of counsel on these points under advisement, but directed that further arguments be heard on a new point advanced for the Pennsylvania, namely, that in the event that the court should find the railroad liable in any amount for alleged losses claimed by Pennroad, only those Pennroad security holders who owned stock at the time the transactions involved in the suit occurred should be permitted to participate in the award. It was estimated that about one-third of the outstanding Pennroad stock would not share in any award under such conditions. Counsel for Pennroad contended, however, that the suit involved the corporations as such, not the individual owners, and that the method of distribution of any award that might be ordered was a matter for Pennroad, not the court, to determine.

The decision of the District Court in this long-pending suit is subject to appeal to the Circuit Court of Appeals and may finally be appealed to the United States Supreme Court.

Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled From 133 Monthly Reports of Revenues and Expenses Representing 136 Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF JUNE, 1942 AND 1941

Item	United States		Eastern District		Southern District		Western District	
	1942	1941	1942	1941	1942	1941	1942	1941
Miles of road operated at close of Month	231,368	232,137	56,891	57,230	43,821	44,126	130,656	130,781
Revenues:								
Freight	$501,342,548	$377,533,941	$204,404,067	$163,906,515	$98,999,591	$74,065,130	$197,938,890	$139,562,296
Passenger	82,268,397	44,832,137	39,003,564	22,825,507	15,424,973	6,411,344	27,839,860	15,595,286
Mail	8,596,275	8,675,120	3,172,785	3,190,364	1,548,178	1,452,616	3,875,312	4,032,140
Express	8,042,082	5,182,035	3,110,960	2,232,624	941,536	848,355	3,989,586	2,101,056
All other operating revenues	23,438,114	18,799,489	10,698,574	9,264,529	2,905,277	2,121,743	9,834,263	7,413,217
Railway operating revenues	623,687,416	455,022,722	260,389,950	201,419,539	119,819,555	84,899,188	243,477,911	168,703,995
Expenses:								
Maintenance of way and structures	69,579,961	52,532,563	27,904,592	21,090,155	11,263,876	8,647,671	30,411,493	22,794,737
Maintenance of equipment	100,935,981	80,939,704	44,889,643	37,646,353	19,530,671	14,815,849	36,515,667	28,477,502
Traffic	9,774,074	9,420,912	3,571,293	3,394,696	1,895,992	1,743,493	4,306,789	4,282,723
Transportation—Rail line	179,150,452	140,866,508	81,452,548	65,155,167	30,835,356	23,337,290	66,862,548	52,374,051
Transportation—Water line	458	319,666	.....	.....	.....	.....	458	319,666
Miscellaneous operations	5,903,723	3,788,212	2,342,650	1,619,358	928,783	453,327	2,632,290	1,715,527
General	13,127,365	11,416,605	5,261,269	4,350,425	2,560,558	2,211,370	5,305,538	4,854,810
Transportation for investment—Cr.*	.....	351,738	.....	66,069	.....	78,151	.....	207,518
Railway operating expenses	378,472,014	298,932,432	165,421,995	133,190,085	67,015,236	51,130,849	146,034,783	114,611,498
Net revenue from railway operations	245,215,402	156,090,290	94,967,955	68,229,454	52,804,319	33,768,339	97,443,128	54,092,497
Railway tax accruals	110,499,194	51,470,243	41,440,896	22,494,790	28,938,684	12,583,249	40,119,614	16,392,204
Railway operating income	134,716,208	104,620,047	53,527,059	45,734,664	23,865,635	21,185,090	57,323,514	37,700,293
Equipment rents—Dr. balance	12,781,600	8,600,102	6,356,808	4,110,324	956,697	72,512	5,468,095	4,417,266
Joint facility rent—Dr. balance	3,203,640	2,703,824	1,622,389	1,423,307	399,027	326,387	1,182,224	954,130
Net railway operating income	118,730,968	93,316,121	45,547,862	40,201,033	22,509,911	20,786,191	50,673,195	32,328,897
Ratio of expenses to revenues (per cent)	60.7	65.7	63.5	66.1	55.9	60.2	60.0	67.9
Depreciation included in operating expenses	20,102,753	18,076,842	9,038,514	7,916,923	3,946,551	3,633,708	7,117,688	6,526,211
Amortization of defense projects	7,213,897	5,616	2,353,671	5,616	1,938,664	.....	2,921,562	.....
Pay roll taxes	14,288,650	11,125,842	6,238,971	4,966,501	2,504,105	1,888,237	5,545,574	4,271,104
All other taxes	96,210,544	40,344,401	35,201,925	17,528,289	26,434,579	10,695,012	34,574,040	12,121,100

FOR SIX MONTHS ENDED WITH JUNE, 1942 AND 1941

Item								
Miles of road operated at close of month†	231,504	232,288	56,907	57,244	43,871	44,195	130,726	130,849
Revenues:								
Freight	$2,673,161,613	$2,006,026,327	$1,118,391,084	$877,025,229	$534,274,464	$398,669,867	$1,020,496,065	$730,331,231
Passenger	392,278,601	237,372,966	188,981,684	121,699,767	75,394,506	42,672,448	127,902,411	73,000,751
Mail	52,605,043	51,837,488	19,192,261	19,271,555	9,411,778	8,969,155	24,001,004	23,596,778
Express	41,069,233	29,729,824	14,497,406	11,726,957	7,125,231	6,469,506	19,446,596	11,533,361
All other operating revenues	121,644,536	99,457,211	57,913,571	49,398,170	15,959,115	12,644,289	47,771,850	37,414,752
Railway operating revenues	3,280,759,026	2,424,423,816	1,398,976,006	1,079,121,678	642,165,094	469,425,265	1,239,617,926	875,876,873
Expenses:								
Maintenance of way and structures	349,986,999	263,685,437	141,333,102	105,809,308	62,838,240	48,552,639	145,815,657	109,323,490
Maintenance of equipment	582,248,454	460,853,038	264,259,879	214,449,680	110,829,016	86,026,309	207,159,559	160,377,049
Traffic	58,169,873	54,769,855	21,082,528	19,405,502	11,580,632	10,739,890	25,506,713	24,624,463
Transportation—Rail line	1,058,007,610	810,061,758	486,628,831	376,074,250	180,874,694	138,402,290	390,504,085	295,585,218
Transportation—Water line	22,820	2,935,810	.....	.....	.....	.....	22,820	2,935,810
Miscellaneous operations	31,739,241	21,281,928	12,972,523	9,234,114	5,261,563	3,393,069	13,505,155	8,654,745
General	77,087,445	66,341,511	30,947,988	26,059,341	14,860,819	12,975,643	31,278,638	27,306,527
Transportation for investment—Cr.*	.....	1,580,441	.....	257,714	.....	369,689	.....	953,038
Railway operating expenses	2,157,262,442	1,678,348,896	957,224,851	750,774,481	386,244,964	299,720,151	813,792,627	627,854,264
Net revenue from railway operations	1,123,496,584	746,074,920	441,751,155	328,347,197	255,920,130	169,705,114	425,825,299	248,022,609
Railway tax accruals	488,310,898	247,276,242	197,398,479	108,947,467	127,800,768	59,012,038	163,111,651	79,316,737
Railway operating income	635,185,686	498,798,678	244,352,676	219,399,730	128,119,362	110,693,076	262,713,648	168,705,872
Equipment rents—Dr. balance	65,018,461	48,465,292	32,432,765	23,636,384	4,048,585	2,386,458	28,537,111	22,442,450
Joint facility rent—Dr. balance	18,510,595	16,511,381	9,887,195	8,955,098	2,029,631	1,824,510	6,593,769	5,731,773
Net railway operating income	551,656,630	433,822,005	202,032,716	186,808,248	122,041,146	106,482,108	227,582,768	140,531,649
Ratio of expenses to revenues (per cent)	65.8	69.2	68.4	69.6	60.1	63.8	65.6	71.7
Depreciation included in operating expenses	117,346,016	107,277,845	52,944,145	47,109,161	23,867,791	21,635,442	40,534,080	38,533,242
Amortization of defense projects	33,631,667	5,616	11,186,124	5,616	8,621,168	.....	13,824,375	.....
Pay roll taxes	81,130,635	62,443,470	35,828,342	27,814,701	14,413,019	10,974,997	30,889,274	23,653,772
All other taxes	407,180,263	184,832,772	161,570,137	81,132,766	113,387,749	48,037,041	132,222,377	55,662,965

† Represents an average of the mileage reported at the close of each month within the period.
* General Account VIII. Transportation for Investment—Cr. canceled effective January 1, 1942.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

News Department continued on next left-hand page

For one hundred years, suppliers of MOBILE POWER for American railroads, the world's greatest transportation system. Now, also suppliers of MOBILE POWER for the world's greatest mobile army. A century of engineering and production "know-how"... helping to turn the tide of mechanized warfare.

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Equipment and Supplies

LOCOMOTIVES

Locomotive Allotment for 1943's First Quarter

The War Production Board has authorized the construction of 50 steam and 45 Diesel-electric locomotives during the first quarter of 1943, it was learned this week.

THE NORFOLK & WESTERN is reported to be contemplating building five steam locomotives of 2-6-6-4 wheel arrangement in the company's own shops.

THE LEHIGH VALLEY has placed orders for 10 Diesel-electric switching locomotives of 1,000 hp. each, allocating five to the Electro-Motive Corporation and five to the American Locomotive Company.

FREIGHT CARS

THE CARNEGIE-ILLINOIS STEEL CORPORATION is reported to be inquiring for 18 gondola cars of 70 tons' capacity. These are in addition to ten 50-ton flat cars, the inquiry for which by this company was reported in the *Railway Age* of August 22.

IRON & STEEL

THE CENTRAL OF NEW JERSEY has placed an order for 170 tons of structural steel with Bethlehem Fabricators, Inc., Bethlehem, Pa.

Construction

CHESAPEAKE & OHIO.—This company has been granted authority by Division 4 of the Interstate Commerce Commission to construct a branch line extending from a connection with a line of the Nicholas, Fayette & Greenbrier at Quinwood, W. Va., northerly to the end of the line, 5.3 miles.

CHICAGO & EASTERN ILLINOIS.—An N. & W. type electric cinder plant for erection at Yard Center, Ill., has been ordered from the Ross and White Company, Chicago. Railroad company forces will erect the cinder plant.

DELAWARE & HUDSON.—A Red Devil locomotive coaler to be erected at Port Edward, N. Y., has been ordered from the Ross and White Company, Chicago.

DELAWARE, LACKAWANNA & WESTERN. —A contract has been awarded the Ross and White Company, Chicago, for furnishing and erecting an N. & W. type electric cinder plant at Secaucus, N. J.

GRAND TRUNK WESTERN. — Company forces are engaged in work at the car shops at Port Huron, Mich., which will cost approximately $39,000. The work consists of the removal of a timber roof and monitors, including timber posts, and replacement with a new timber roof supported on second-hand steel roof trusses. The new construction will provide a clear span of 80 ft. between exterior walls for a length of 360 ft. adjoining the new steel freight car shop rebuilt in 1935.

GRAND TRUNK WESTERN. — Company forces are engaged in rebuilding and extending nine stalls of the roundhouse at Port Huron, Mich., at a cost of approximately $40,000. This roundhouse has brick exterior walls excepting at these nine stalls which were extended 16 ft. with wooden construction some years ago and are now being replaced and extended an additional 16 ft. to provide a total depth of 108 ft., with 90-ft. engine pits. A new brick exterior wall will be built with a roof extension to correspond.

GRAND TRUNK WESTERN. — Hamer Brothers, Inc., of Detroit, Mich., have just completed the removal of a 1,300-ft. single-track bridge over the Saginaw river at Bay City, Mich., incident to the abandonment of 0.92 mile of line and station facilities on the east side of the river. The bridge consisted of five 160-ft. fixed through truss spans and two 250-ft. through truss swing spans, carried on concrete piers constructed in 1912. Three of the piers had deteriorated seriously at and below the water line and the U. S. Government was about to undertake extensive dredging operations of the river channel which would endanger the bridge substructure.

Another contract has been awarded to Hamer Brothers, Inc., for the removal of a single track bridge over the Saginaw river at Saginaw, Mich. This bridge was constructed in 1889 and consists of a through truss fixed span 158 ft. long and a through truss swing span 194 ft. long of wrought iron and steel, carried on stone masonry piers which rested on a timber grillage on piling just below the water level. The structure, which had a total length of 510 ft., also had a timber trestle and I-beam span approaches. The bridge had an approximate Cooper's rating of E-30 and due to limited clearances and load restrictions has been out of service for a number of years, during which period trains were routed through Saginaw over the Michigan Central.

PENNSYLVANIA. — This company has awarded a contract for an extension to its thawing shed at South Amboy, N. J., to E. H. Reuss, Jr., Inc., of Philadelphia, Pa.

SEABOARD.—A Red Devil locomotive coaler to be erected at Charleston, S. C., has been ordered from the Ross and White Company, Chicago.

WAR DEPARTMENT.—The National Gypsum Company has ordered steam sand dryers and sand storage tanks and equipment for installation at an ordnance plant in Texas from the Ross and White Company, Chicago.

WAR DEPARTMENT.—The U. S. Engineer Office at Rock Island, Ill., has awarded a contract in amount less than $100,000 to Deckert & McDowell, Chicago, for the construction of railroad facilities in Illinois. The U. S. Engineer Office at Los Angeles, Cal., has recently awarded two contracts for railroad construction, one in amount less than $100,000 to H. B. Nicholson, Los Angeles, Cal., for the construction of a railroad spur in Arizona and the other in amount less than $50,000 to James B. Donaldson, Phoenix, Ariz., for the extension of a spur track and construction of a crossover in Arizona. The U. S. Engineer Office, Albuquerque, N. M., has awarded two contracts, both in amounts less than $50,000, to Sharp & Fellows Contracting Company, Amarillo, Tex., and William A. Smith Construction Company, Houston, Tex., for the construction of railroad trackage in Texas and to Patrick & Prestridge, Albuquerque, for the construction of railroad in New Mexico. Two other contracts recently awarded, both of which are less than $50,000, are: U. S. Engineer Office, Galveston, Tex., to the William A. Smith Construction Company, for the construction of a spur track in Texas; and the U. S. Engineer Office, San Antonio, Tex., to the same company for the construction of a siding in Texas.

Supply Trade

Joseph E. Moody has been appointed manager of the newly established industrial relations department of the **York Ice Machinery Corporation.**

William N. Grooms of Salt Lake City, Utah, has been appointed a district sales agent of the **Roller-Smith Company,** Bethlehem, Pa., to handle all Roller-Smith products in the states of Utah, Idaho, Montana and the southwest corner of Wyoming.

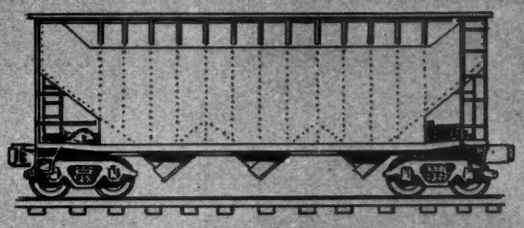
William E. Vogt has been elected secretary of **Electro Metallurgical Sales Corporation,** a unit of the Union Carbide & Carbon Corporation, with headquarters in the company's New York offices. Mr. Vogt has been connected with units of the Union Carbide & Carbon Corporation for more than 30 years.

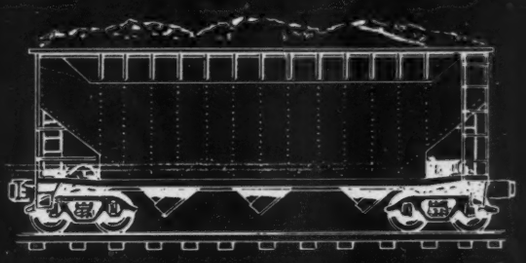
C. A. Liddle, president of the **Pullman-Standard Car Manufacturing Company,** is participating in the work of the **American Industries Salvage Committee** to enlist the full co-operation of individual industrial concerns behind the current scrap salvage program of the War Production Board, serving as liaison between the committee and individual companies in the railway supplies industry. He has asked by letter that each company in this field appoint a responsible official to assist in any way possible the local general salvage committees that have been established by the WPB in 12,000 communities.

Karl Landgrebe, vice-president in charge of administration and special duties of the **Tennessee Coal, Iron & Railroad Co.,** has retired after 32 years with the company. He was born in Cleveland, Ohio, and after graduating from the Case

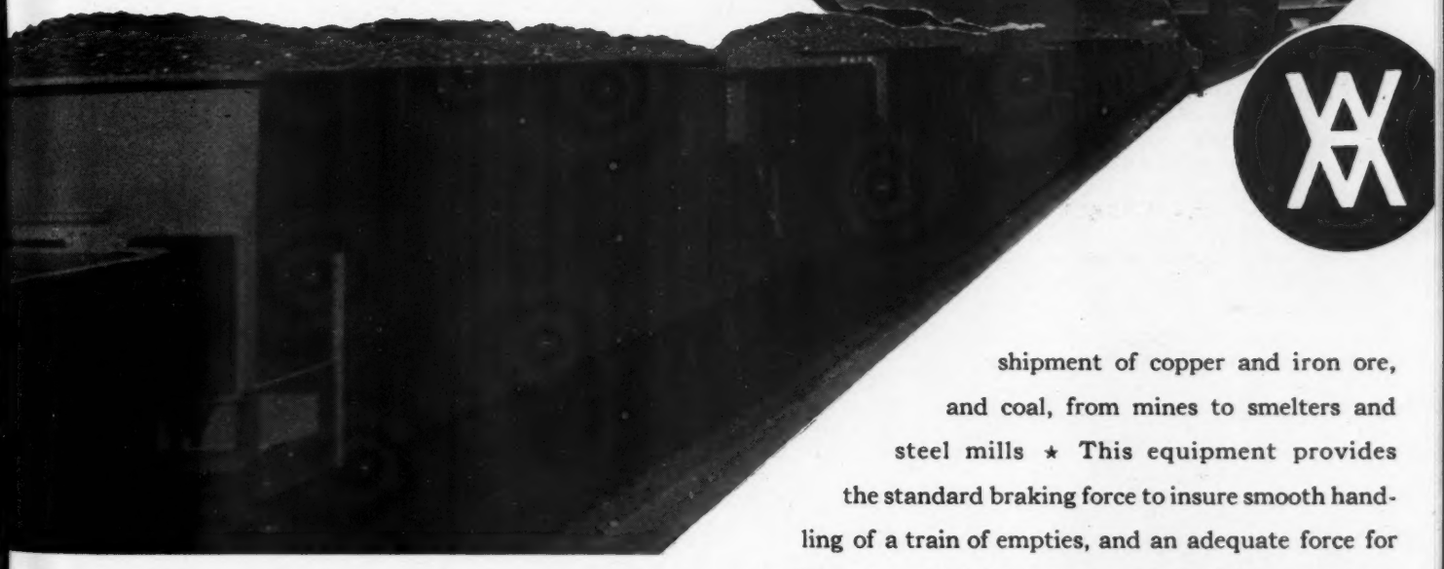
News Department continued on next left-hand page

EMPTY *and* LOAD BRAKES





Help Keep RAW MATERIALS . . . . *Rolling*



TRANSPORTATION plays a vital role in the production of strategic raw materials as in every other phase of war activity. Hauling facilities for ore and coal are being taxed to their limit, and railroads are performing a gigantic task efficiently ★ On many properties, on thousands of cars, the Westinghouse Empty and Load Brake is helping to safeguard and expedite volume shipment of copper and iron ore, and coal, from mines to smelters and steel mills ★ This equipment provides the standard braking force to insure smooth handling of a train of empties, and an adequate force for loaded trains, with all the precise and positive control advantages of the AB Equipment ★ Railroads using cars having a high gross to tare ratio equipped with our Empty and Load Brake have increased transportation efficiency. Fewer trains carry the same tonnage, at faster speeds safely. For them this equipment has been a paying investment — a definite help toward meeting the present-day demand for increased tonnage production.

WESTINGHOUSE AIR BRAKE CO.

WILMERDING, PENNSYLVANIA

School of Applied Science in 1898, worked in Cleveland and in the blast furnace departments of steel companies in Chicago, Toledo, Ohio, and Bethlehem, Pa. In 1910, he entered the employ of the Tennessee Coal, Iron & Railroad Co. as superintendent of its blast furnace department at its Ensley works. Later he was promoted to general superintendent and to vice-president in charge of operations. He held his present position since 1935.

The American Steel & Wire Co., which has been charged by a Federal grand jury of violation of Federal law in connection with the sale of patented insulated cable to the Navy, released the following statement on August 24: "On November 15, 1933, the American Steel & Wire Co. took a license from Rockbestos Products Corporation to manufacture and sell a special type of patented electrical cable. This license agreement, until amended June 29, 1942, contained a clause which provided that the wire company was required to observe the prices established by Rockbestos on all sales. The wire company complied with this agreement in good faith, quoting the prices named by Rockbestos in the belief that this was entirely legal."

William N. Manuel, manager of the general sales service department of the **Corning Glass Works,** Corning, N. Y., will retire September 1, after 25 years of service with that company. Mr. Manuel was born in Kokomo, Ind., on November 24, 1876. His career in the railroad field began in 1894 with the Pennsylvania Lines West of Pittsburgh (now the Pennsylvania) and continued successively in the track, telegraph (operator) and signal departments, Richmond, Va., and Pittsburgh, Pa., divisions, until 1905, with the exception of one year, in 1902-1903, when he was employed in the construction department of the Taylor Signal Company (now the General Railway Signal Company). He became supervisor of signals on the Grand

William N. Manuel

Rapids and Indiana (now the Pennsylvania) in 1905, and occupied this position until 1917. He entered upon his 25 years of service with the Corning Glass Works on June 1, 1917, as sales engineer for the railroad and marine sales division and continued in this capacity until January, 1929, when he was appointed manager of the same division. In September, 1939, he was advanced to manager of the general sales service department, from which position he is now retiring. Mr. Manuel is a member of the Signal Section, A. A. R., having served as committee chairman for a number of years, and as a member of the committee of direction in 1916-1917. He was also chairman of the Signal Appliance Association in 1929-1930, and a member of the executive committee from 1930 to 1938, inclusive.

The Bullard Company, Bridgeport, Conn., manufacturers of vertical turret lathes and "Multi-matics" was awarded the joint Army-Navy "E" on August 24, before a large assembly made up chiefly of employees of the company. The award was presented by Colonel F. H. Payne, assistant chief of the Springfield ordnance district, and was accepted by E. P. Bullard, president of the company The "E" pins were presented to Vincent E. Hughes, chairman of the Bullard War Service Club, an employees' organization, by Lieutenant Commander R. T. Fish of the Hartford naval office. Representatives from the Army and the Navy addressed the assembly. An impressive feature of the ceremony was a salute by twelve Army fighting planes during the acceptance address of Mr. Bullard, who pointed to them and said, "Boys, a lot of parts on those planes were made on Bullards." The ceremony was broadcast throughout the entire works of the company so that those men who could not be spared from their jobs could hear the proceedings.

OBITUARY

John S. Conover, who retired as assistant to the vice-president of the General Electric Company in 1931, died August 23 at Schenectady, N. Y. He was 78 years of age. Mr. Conover pioneered in the development of electric power in India and the trolley car in Germany.

Thomas F. Kilcoyne, traveling engineer for the American Arch Company, Inc., died August 10 at Cincinnati, Ohio. Mr. Kilcoyne had been associated with the American Arch Company for 30 years. He was formerly a boilermaker for the Pennsylvania at Altoona, Pa., and a boiler inspector for the Chesapeake & Ohio at Huntington, W. Va.

TRADE PUBLICATIONS

LOCOMOTIVE COALERS.—The Ross and White Company, Chicago, has recently published an eight-page bulletin, No. 47, which describes the Red Devil locomotive coalers made by this company. The bulletin contains numerous photographs of Red Devil coalers in service on various railroads and describes their important construction features in detail. Also described in the bulletin are the new N. & W.-type cinder plant, new sand storage towers for placing sand in corner sand boxes of Diesel locomotives and a new half circle spread locomotive sand valve. In addition to photographs, the bulletin is illustrated with drawings showing construction details and it is attractively printed in color.

Financial

BALTIMORE & OHIO.—*Abandonment by the Mount Jewett, Kinsua & Riterville.*—The Mount Jewett, Kinsua & Riterville and the Baltimore & Ohio, respectively, have asked the Interstate Commerce Commission for authority to abandon a line and the operation thereof extending from Mt. Jewett, Pa., to the end of the line at Kushequa, 4.1 miles.

BANGOR & AROOSTOOK.—*Securities.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to (a) procure the authentication and delivery of $4,000,000 of collateral trust four per cent bonds, and (b) pledge as security therefor $8,000,000 of consolidated refunding mortgage four per cent bonds, due July 1, 1951, and such additional amounts of these bonds as may be purchased from time to time, pursuant to the sinking-fund provision of the proposed collateral trust indenture. Details of the issue of the collateral trust bonds were given in the *Railway Age* of August 1, page 194.

CHESAPEAKE & OHIO.—*Abandonment.*—This company has asked the Interstate Commerce Commission to reconsider its application of August 18, 1933, in Finance Docket No. 10112 wherein it sought authority to abandon its Craig Valley branch extending from Eagle Mountain, Va., to New Castle, 26.4 miles. Authority to abandon the line was denied by the commission in a decision dated September 22, 1934.

CHICAGO, BURLINGTON & QUINCY.—*Seeks to Reduce Trust Issue.*—The Chicago, Burlington & Quincy has proposed to purchase $5,054,000 of its 1½ per cent equipment trust certificates sold in 1941 and due as follows: $843,000 in 1943 and 1944 and $842,000 in 1945-1948, inclusive. Certificates totaling $9,387,000 were sold on July 16, 1941. Construction of equipment proposed under the equipment trust was stopped by the War Production Board on April 29, 1942, and consequently only 1,828 box cars worth $4,988,375 and 50 flat cars worth $108,750 are available as collateral for the certificates, of which $764,568 or 15 per cent was paid by the railroad.

COLORADO & SOUTHERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a narrow gage line extending from Chatfield, Colo., to South Platte, 15.6 miles.

INDIANA.—*Sale Proposed.*—The Midland United Company on August 20 proposed to the Securities and Exchange Commission the $650,000 cash sale of its subsidiary, the Indiana railroad, after making capital contributions to the railroad amounting to $7,093,910. The Wesson Company proposes to buy the road which serves 70 communities in Indiana.

MINNEAPOLIS & ST. LOUIS.—*State Opposes Reorganization.*—The state of Minnesota has filed a protest against the pro-

News Department continued on next left-hand page

HSGI *Wear Resisting* PARTS

on the New C & O 4-6-4's

THE new passenger locomotives are typical examples of the splendid modern power which keeps the wheels rolling on the Chesapeake & Ohio.

All of the wearing parts inside the valves and cylinders are made from HUNT-SPILLER *Air Furnace* GUN IRON also the stationary bushings in the back end of the main rods.

Duplex *Sectional* Packing was applied in the valves and cylinders. The rings are a combination of HUNT-SPILLER *Air Furnace* GUN IRON and bronze.

HSGI
Reg. U.S. Trade Mark
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings
Finished Parts
Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

HUNT-SPILLER MFG. CORPORATION
V. W. Ellet, *President* — E. J. Fuller, *Vice-Pres. & Gen. Mgr.*

383 Dorchester Ave. *Office & Works* South Boston, Mass.

Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.
Export Agent for Latin America:
International Rwy. Supply Co., 30 Church Street, New York, N. Y.

HUNT-SPILLER GUN IRON
Air Furnace

posed reorganization of this railroad, charging that the real purpose of the reorganization is "to dismember and destroy the M. & St. L. as a factor in the life of the State and the city of Minneapolis." The road has been in receivership since July 26, 1923. (See *Railway Age*, August 1, page 195, for previous item.)

MINNEAPOLIS & ST. LOUIS.—*Reorganization Plan Supported.*—Permanent jobs for 1,200 people in Minneapolis, Minn., with an annual payroll of $2,000,000; the construction of new railroad shops in Minneapolis at an estimated cost of $1,000,000; and an over-all improvement program to expend $4,000,000 over the entire line were arguments introduced in support of the reorganization plan of the Minneapolis & St. Louis by representatives of the railroad, organized labor, the municipality of Minneapolis and the United States Treasury department at a final hearing in the federal district court at Minneapolis, Minn., on August 22. The case was fully submitted and has been taken under advisement by the court.

Among those testifying for the railroad were L. C. Sprague, president and receiver; John W. Devins, general manager; Herbert W. Ward, general traffic manager; and George A. Anderson, comptroller. According to their testimony, the road, reorganized as two new affiliated companies, would, with the aid of a loan up to $4,000,000 from the government, be able to improve its properties, increase operating efficiency and thus compete effectively for traffic and earnings in years ahead. Mr. Sprague said that the new roads "can hold their own in competition for traffic with the strong roads that surround them" if they can improve their properties as other lines have done. "There will be a terrific scramble for rail business after the war," Mr. Sprague said. "To compete effectively, the M. & St. L. needs $1,750,000 working capital, which would be provided under the proposed plan, together with funds for improvements. With these the road can maintain its traffic gains of the last seven years. If the plan is defeated, the M. & St. L. will stay in receivership and go again into the old decline."

NEW YORK, SUSQUEHANNA & WESTERN.—*Will Not Appeal Tax Rulings.*—The U. S. District court at Newark, N. J., on August 14, ordered this railroad not to appeal to the courts decisions of the New Jersey Board of Tax Appeals affecting company's property for the year 1939. The railroad had applied for this order on the grounds that the amount of taxes due the state for the year 1939, and for the entire 1935-1940 period, was already settled by a previous court order. The State of New Jersey has rejected principal and interest payments made by the railroad pending settlement of litigation over the state's new railroad tax regulations which are being contested by the State Attorney General.

READING.—*Bonds.*—This company has asked the Interstate Commerce Commission for authority to issue and retain in its treasury $3,677,000 of general and refunding mortgage 3½ per cent bonds, series D. The bonds may be used in the future to reimburse the company's treasury for bonds already redeemed or to be redeemed in the near future. The new bonds will mature July 1, 1967.

NEW YORK CENTRAL.—*Abandonment.*—This road has applied to the Interstate Commerce Commission for authority to abandon its 3.1-mile line between Van Cortlandt Juncton, New York City, and Getty Square, Yonkers, N. Y.

UNION PACIFIC.—*Abandonment by the Oregon Short Line.*—The Oregon Short Line and the Union Pacific, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon a line and the operation thereof extending from Peterson, Idaho, to the end of the line at Gardner, 3.9 miles.

WABASH.—*Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for $2,000,000 of 2⅛ per cent equipment trust certificates, maturing in 10 equal annual installments of $200,000 on August 1 in each of the years from 1943 to 1952, inclusive. The proceeds of the issue will be used as a part of the purchase price of new equipment costing a total of $2,585,847 and consisting of 520 50-ton, all-steel box cars; 125 50-ton, all-steel, tight-end automobile cars; 25 50-ton, all-steel, end-door automobile cars; 50 70-ton, mill-type gondola cars; 100 70-ton, mill-type gondola cars; and 25 70-ton, all-steel, covered hopper cars.

The issue has been sold, subject to commission approval, to Halsey, Stuart & Co. at 99.25.

WESTERN MARYLAND.—*Abandonments.*—This road has filed with the Interstate Commerce Commission four applications seeking authority to abandon branch lines totaling 12 miles in length. The branches extend from a point between Dailey, W. Va., and Steiner to Huttonsville, 7.58 mi.; from a point near Pine Bluff, W. Va., to Wyatt, 2.39 mi.; from Valuation Station 158 + 50 on the Midland branch to the end of the line at Sonny, Md., 1.2 mi.; and from Koontz Junction, Md., to Koontz, 0.94 mi. The applications state that favorable action would release for the war effort 1,540 tons of rail, 241 tons of other track material, and 126 tons of bridge steel.

Average Prices Stocks and Bonds

	Aug. 25	Last week	Last year
Average price of 20 representative railway stocks..	27.71	27.69	30.81
Average price of 20 representative railway bonds..	66.18	65.90	64.53

Dividends Declared

Alabama & Vicksburg.—Capital, 3 per cent, semi-annually, payable October 1 to holders of record September 8.

Delaware & Bound Brook.—$2.00, quarterly, payable August 20 to holders of record August 18.

Erie & Pittsburgh.—7 Per Cent Guaranteed, 80¢, quarterly, payable September 10 to holders of record August 31.

Union Pacific.—Common, $1.50, quarterly; 4 Per Cent Preferred, $2.00, semi-annually, both payable October 1 to holders of record September 1.

Vicksburg, Shreveport & Pacific.—Preferred, 2½ per cent, semi-annually; Common, 2½ per cent, semi-annually, both payable October 1 to holders of record September 8.

Railway Officers

EXECUTIVE

William J. Hogan, general manager of the Grand Trunk Western, with headquarters at Detroit, Mich., has been elected also president of the Detroit & Toledo Shore Line.

FINANCIAL, LEGAL AND ACCOUNTING

Harry B. Harding, whose promotion to tax commissioner of the Southern Pacific, with headquarters at San Francisco, Cal., was reported in the *Railway Age* of August 8, was born at St. Louis, Mo., on June 25, 1883, and attended Barnes Business College, St. Louis, Mo., and the Packer School, New York. He entered railway service on September 1, 1902, as stenographer for the general agent, passenger department, of the Chicago, Rock Island & Pacific at Denver, Colo., and on January 1, 1904, he was transferred to New

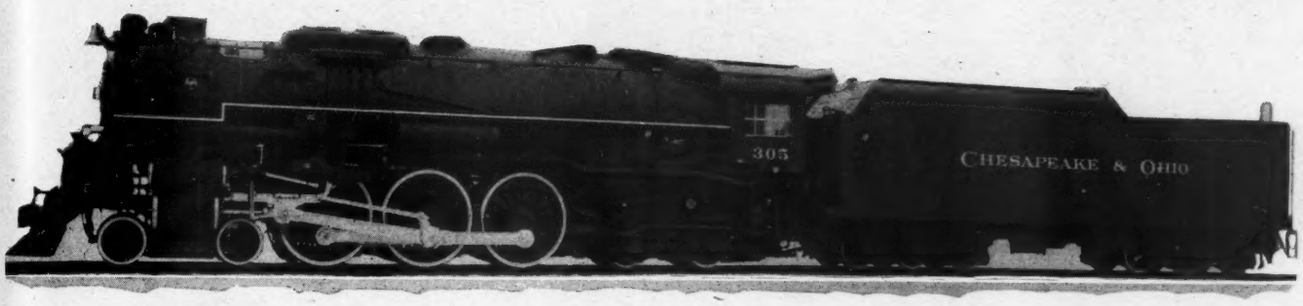
Harry B. Harding

York, serving as stenographer and ticket clerk in the office of the eastern passenger agent. On February 1, 1905, he became secretary of the chairman of the Rock Island and the St. Louis-San Francisco and two years later became secretary of the president of the Frisco. From December, 1909, to October, 1910, Mr. Harding was off duty because of ill health and on October 11, 1910, he returned to service as clerk and special right of way agent of the El Paso & Southwestern (now part of the Southern Pacific). On June 1, 1912, he was promoted to assistant real estate agent and tax commissioner of the E. P. & S. W., later being advanced to real estate and tax agent. When the Southern Pacific acquired control of the E. P. & S. W. on December 1, 1924, Mr. Harding was appointed land and tax agent of the Southern Pacific, with jurisdiction over Arizona, New Mexico and the Pacific lines in Texas. On October 1, 1935, he was advanced to assistant to the real estate and tax commissioner, with headquarters at San Francisco, which po-

News Department continued on next left-hand page

BUCKEYE

Equalized Tender Truck On the New C&O 4-6-4's



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sition he held until his recent appointment, effective August 1.

OPERATING

D. C. Ferguson has been appointed terminal superintendent of the Southern at Meridian, Miss., a newly created position.

E. O. Craig, a passenger conductor of the Union Pacific, has been promoted to trainmaster at Cheyenne, Wyo.

Earl Johnson has been appointed trainmaster of the Hudson and Mohawk divisions of the New York Central, with headquarters at Albany, N. Y.

G. A. Alford has been appointed trainmaster terminals of the Texas & Pacific at Texarkana, Tex., succeeding **L. White,** who has been granted a leave of absence.

Thomas Benedict Girard, whose promotion to superintendent of transportation of the New York, Ontario & Western at Middletown, N. Y., was reported in the *Railway Age* of August 8, was born on September 4, 1891, at Middletown. Mr.

Thomas Benedict Girard

Girard was graduated from Middletown high school and took a traffic course at New York University in 1922 and 1923. He entered railroad service on October 1, 1918, with the New York, Ontario & Western as demurrage clerk, engaging in freight claim prevention work from July 1, 1920, to May 1, 1925. On the latter date Mr. Girard became special agent, demurrage and car service, and on June 1, 1937, he became chief clerk to the superintendent of car service, which position he held until January 16, 1938, when he became superintendent of car service, the position he held until his recent promotion to superintendent of transportation, effective August 1.

Herman T. Frushour, whose promotion to general manager of the New York zone of the Pennsylvania at New York was reported in the *Railway Age* of August 22, was born at Logansport, Ind., on February 17, 1882. Following his graduation from high school in that city, Mr. Frushour served as rodman and locomotive fireman on the Logansport division of the Pennsylvania. He then entered Purdue University, graduating in 1907 with the degree of bachelor of science in civil engineering. Returning to the Pennsylvania as assistant on the engineering corps, he served as assistant engineer at Cincinnati, Ohio, and division engineer at Cleveland,

Herman T. Frushour

Ohio. On July 1, 1928, he became superintendent of the Monongahela division at Uniontown, Pa., transferring to the Erie and Ashtabula division at New Castle, Pa., in June, 1929. Mr. Frushour was transferred to the St. Louis division in September, 1932, and to the Eastern division at Pittsburgh, Pa., in July, 1933. On November 1, 1935, Mr. Frushour became superintendent of the Long Island railroad at Jamaica, N. Y. He became general superintendent of the Western Pennsylvania division of the Pennsylvania at Pittsburgh on September 16, 1939, which position he held until his recent promotion to general manager of the New York zone.

H. T. Cover, whose promotion to general superintendent of the Eastern Ohio division of the Pennsylvania at Pittsburgh,

H. T. Cover

Pa., was reported in the *Railway Age* of August 22, was born at Altoona, Pa., on August 25, 1897. Mr. Cover entered railroad service in August, 1915, with the Pennsylvania, serving for two weeks as laborer at Altoona, then serving successively as boilermaker's helper in the Juniata shops, draftsman in the office of the general superintendent motive power, special apprentice in the Altoona machine shop, motive power inspector, assistant shop foreman on the New York division, foreman on the same division, shop foreman on the Philadelphia Terminal division and at the East Altoona enginehouse. On January 1, 1931, Mr. Cover became assistant master mechanic of the Maryland division and was promoted to master mechanic of the Buffalo division on November 1, 1934, being transferred to the Maryland division on April 16, 1937. He served as master mechanic of the Columbus, Cincinnati and Toledo divisions from July 1, 1939, to January, 1940, when he was promoted to superintendent of the Wilkes-Barre division at Sunbury, Pa., which position he held until January, 1942, when he became superintendent of freight transportation of the Eastern region at Philadelphia, Pa., the position he held until his recent promotion.

John A. Schwab, whose promotion to superintendent of freight transportation of the Eastern region of the Pennsylvania,

John A. Schwab

with headquarters at Philadelphia, Pa., was reported in the *Railway Age* of August 22, was born at Menoken, N. D., on July 26, 1903. Mr. Schwab enlisted in the Signal Corps of the Regular Army in December, 1919, and served in this branch of the service until July, 1923, when he entered the United States Military Academy at West Point, N. Y., from which he was graduated in June, 1927, being assigned to the Air Corps at Brooks Field, Texas. He resigned from the Army in October, 1927, and entered the service of the Pennsylvania on November 8, 1927, as a rodman on the engineering corps of the Eastern region. He was advanced to assistant supervisor on November 10, 1928, and served in that capacity on the Williamsport, Philadelphia Terminal and Maryland divisions. Mr. Schwab was promoted to supervisor on February 11, 1930, serving on the Elmira, Williamsport and Maryland divisions, as well as in the general office of the Eastern region at Philadelphia, until May 23, 1934, when he became assistant division engineer of the Middle division. He was appointed acting division engineer of the Eastern division on November 1, 1935, becoming di-

News Department continued on third right-hand page

vision engineer of that division on June 1, 1936. Mr. Schwab was promoted to superintendent of the Logansport division on January 15, 1938, being transferred to the Delmarva division on April 1, 1939, and to the Buffalo division on January 16, 1941, where he remained until his recent promotion.

Adolph Hanson, chief clerk to the executive assistant of the Union Pacific at Los Angeles, Cal., has been promoted to assistant to the general manager of the Eastern district, with headquarters at Omaha, Neb.

G. H. Jury, assistant superintendent of the St. Louis-San Francisco at Springfield, Mo., has been appointed acting superintendent of the Central Division, with headquarters at Ft. Smith, Ark., succeeding **Ernest P. Olson,** who has been granted a leave of absence because of illness.

J. A. Nobert, trainmaster of the Laurentian division of the Canadian National, has been appointed assistant superintendent of the Laurentian division, with headquarters at Montreal, Que., succeeding **F. E. Hartshorn,** who has retired after more than 30 years' service.

Hugh Bolton, trainmaster of the Denver & Rio Grande Western at Glenwood Springs, Colo., has been promoted to assistant to the assistant general manager, with headquarters at Denver, Colo. **W. M. Henderson** has been appointed trainmaster at Glenwood Springs, succeeding Mr. Bolton.

F. L. Campion, whose promotion to superintendent of the Southern division of the Chicago, Rock Island & Pacific, with headquarters at Ft. Worth, Tex., was reported in the *Railway Age* of July 11, was born in Nebraska and entered railway service on the Rock Island in 1909 as a dispatcher on the Kansas division. He was promoted to chief dispatcher on the St. Louis division in 1914, later serving in that capacity at various locations. He was promoted to trainmaster on the Arkansas division in 1924 and subsequently held similar posts on the Oklahoma, Southern, St. Louis-Kansas City, Panhandle and Des Moines divisions. In 1940 Mr. Campion was promoted to assistant superintendent of the Cedar Rapids division, later being transferred successively to Estherville, Iowa and Trenton, Mo. He was located at the latter point at the time of his recent promotion.

TRAFFIC

John H. Christy, assistant Western traffic manager of the Delaware, Lackawanna & Western, has been promoted, effective September 1, to Western traffic manager, with headquarters as before at Chicago, succeeding **Charles E. Hall,** who will retire on that date.

Mr. Hall was born at Smyrna, Ohio, in 1880 and entered railway service in 1896 as a telegraph operator and station agent on the Baltimore & Ohio, going with the Erie a year later as a ticket agent at Marion, Ohio. In 1898, he entered the service of the New York, Chicago & St. Louis in the superintendent's office at Conneaut, Ohio, and after a year he was appointed relief agent, being transferred to the traffic department in 1900. In 1902 Mr. Hall was appointed agent at Westfield, N. Y., and two years later he went with the Lackawanna, serving this road as traveling agent at various points until 1912, when he was appointed agent at Seattle, Wash. From 1918 to 1920, during the war period, he occupied a position in the traffic department of the crude rubber department of the Firestone Tire & Rubber Company; at the end of that period he returned to the Lackawanna as commercial agent at Seattle. In 1929 he was promoted to general agent, with the same headquarters, which position he held until January 1, 1932, when he was sent to Chicago as assistant western traffic manager. On December 1, 1932, he was advanced to western traffic manager, with the same headquarters.

Blackstone

Charles E. Hall

MECHANICAL

M. Wilkinson has been appointed supervisor maintenance of equipment of the Texas & Pacific, with headquarters at Dallas, Tex., succeeding **A. B. Welch,** who has been appointed car foreman at the Longview (Tex.) shops.

PURCHASES AND STORES

C. E. Watson, chief clerk in the general store department of the St. Louis Southwestern at Pine Bluff, Ark., has been promoted to the newly created position of assistant general storekeeper, with the same headquarters.

SPECIAL

Earle B. Perry, whose appointment as manager of personnel of the New York, New Haven & Hartford at New Haven, Conn., was reported in the *Railway Age* of July 18, was born at Hartford, Conn., on December 9, 1888. Mr. Perry entered the service of the New Haven in May, 1902, as a bill clerk for the old Central New England (now New Haven) and in June, 1903, he became time clerk in the mechanical department at Hartford. On August 14, 1905, he was transferred to New London, Conn., and on February 15, 1908, to New Haven. Mr. Perry was appointed chief time clerk at Waterbury, Conn., on May 17, 1912, transferring to New Haven in October, 1913. On December 15, 1915, he was appointed supervisor of wage schedules, continuing in that position until June 16, 1925, when he was appointed assistant to general manager, the position he held at the time of his recent promotion to manager of personnel, effective July 1.

Earle B. Perry

ENGINEERING & SIGNALING

R. O. Irwin has been appointed assistant to the chief engineer of the Denver & Rio Grande Western, a newly created position, with headquarters at Denver, Colo.

OBITUARY

Alvin C. Harvey, chief engineer of the New York, Chicago & St. Louis (Nickel Plate), with headquarters at Cleveland, Ohio, died of a heart attack on August 22, after an illness of two weeks.

Finley Johnson Shepard, director of the Missouri Pacific and various other railroads, with headquarters at New York, died on August 22 at Roosevelt hospital, New York, where he had been under treatment for six months. Mr. Shepard was born on October 8, 1867, at Saybrook, Conn., and entered railroad service in 1889 with the Northern Pacific, remaining with that road until 1901. He then went with the Atchison, Topeka & Santa Fe, becoming general superintendent of the Santa Fe Coast Lines at Los Angeles, Cal., in 1902. From 1905 to 1911 Mr. Shepard engaged in commercial business at Chicago, becoming connected with the executive offices of the Missouri Pacific at St. Louis, Mo., in 1911. In 1912 he was transferred to New York, subsequently becoming vice-president of the Missouri Pacific and Denver & Rio Grande. At the time of his death Mr. Shepard was a director of the Missouri Pacific, Texas & Pacific, New Orleans, Texas & Mexico, Western Pacific and the Denver & Rio Grande Western.

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Have You Changed Your Address?

Notice of change of address of subscribers should reach the office of *Railway Age*, 30 Church St., New York, ten days in advance to insure delivery of the following issue to new address. In sending notification of change always include the old address as well as the new.

Name .....

Old Address .....

New Address .....

Position ..... Company .....

On Press

THE STEAM LOCOMOTIVE

By Ralph P. Johnson, M. E.
Chief Engineer, The Baldwin Locomotive Works

This authoritative treatise on the theory, operation and economics of the modern steam locomotive presents the results of recent research and current practice. Comparisons are drawn with Diesel-electric and other types of motive power.

The author's experience in the testing of locomotives here and abroad with the aid of dynamometer cars is drawn upon. Methods used in these tests are of particular interest in this country where road testing of locomotives is of increasing importance.

The material has been stripped down to fundamentals, with just enough background included to indicate the paths of development. Tables have been carefully checked against latest available data.

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